Employment Security REVIEW

Vol. 26 APRIL 1959 No. 4

OCCUPATIONAL FACTS FOR A BETTER EMPLOYMENT SERVICE

MODERNIZING THE DOT, Carl A. Heinz and Emanuel Weinstein 3
A CUSTOM-MADE SURVEY, Wilbert Rauch 6
ATLANTA STUDY POINTS UP TRAINING NEEDS, Maria M. Mallet 9
AMARILLO'S MANPOWER NEEDS, Maurice Acers 12
BRINGING THE DOT UP TO DATE FOR THE LUMBERING INDUSTRY, James V. Lacy 15
THE TECHNICIAN AND OUR CHANGING INDUSTRY, Eugene F. Macaulay 18
WASHINGTON METROPOLITAN AREA SURVEYS ITS PROFESSIONAL OCCUPATIONS, Kathryn N. Fox 20
JOB KNOWLEDGE QUESTIONS FOR "SPACE AGE" INDUSTRY, John M. Cooper and John F. Wallace 22
USING OCCUPATIONAL INFORMATION FOR INDUSTRIAL DEVELOPMENT
IDAHO DEPARTMENT OF COMMERCE AND DEVELOPMENT, Louise Shadduck 24
BOISE, IDAHO CHAMBER OF COMMERCE, Roger B. McGinnis 25
OCCUPATIONAL WAGE SURVEYS HAVE MANY USES, Dale L. Plank 26
EARLY VOCATIONAL EXPLORATION, Hyrum Smith and O. Dean Call 28

HOW WE STAFFED A NEW PLANT, Howard Winstead 31

UNITED STATES DEPARTMENT OF LABOR
JAMES P. MITCHELL, Secretary
BUREAU OF EMPLOYMENT SECURITY • UNITED STATES EMPLOYMENT SERVICE
ROBERT C. GOODWIN, Director
Washington 25, D. C.

In This Issue

EVERYONE will agree that the DOT should be kept up to date. But such an undertaking is no small task—as is evident from the article by Carl Heinz and Emanuel Weinstein on modernizing the DICTIONARY. They explain the need for the revision and the detailed efforts which go into its accomplishment. p. 3

THE manpower skill survey in Racine, Wis., studied the anticipated need by 1962 for workers in 50 occupational fields. Wilbert Rauch tells how the survey came to be made, how it has answered the questions of employers and present and future employees, and how it has helped in the development of plans to meet the expected worker needs. p. 6

THE fact that 292 employers participated in the survey which produced "Atlanta Skilled Workers in Manufacturing" indicated the widespread concern of management with manpower problems, says Maria Mallet, of the Georgia Employment Security Agency. The purpose of the study was to determine future needs for skilled workers so that training programs could be developed to meet these needs. p. 9

IN turning over the completed "Amarillo Skill Survey" to the local chamber of commerce, Texas Employment Commissioner Maurice Acers pointed out that the area faces two challenges: To plan so that future manpower will have needed training in specific fields and to attract migrants with the professional and skilled training to supplement the local supply. p. 12

SINCE the lumbering industry plays an important role in Oregon's economy, the State agency has long been interested in keeping its occupational information for the industry as current as possible. For this reason, it was able to respond affirmatively, in 1955, to the national office request for assistance in preparing material for the new DICTIONARY OF OCCUPATIONAL TITLES. James V. Lacy describes the steps which went into the writing of the job definitions for lumbering occupations. p. 15

THE industrial changes which are taking place in our country have created a growing demand for a new occupational category—Technician. But just what is a technician? Where do technicians work and in what numbers? Where will they be needed in the future? Some answers to these questions are available as a result of the study made by the Minnesota Department of Employment Security and described by Eugene F. Macaulay of the State agency. p. 18

KATHRYN N. FOX tells how the Washington, D.C., USES office surveyed the professional occupations of the Washington metropolitan area with a twofold purpose. p. 20

THE "Space Age" brought new problems to the Orlando, Fla., local office in the form of orders from the Martin Co. for skilled workers, especially two types of Electronic Technicians. To help meet this new challenge, the FSES, with the assistance of company officials, developed oral trade questions for these two occupations. How it was done and some of the results are told by John M. Cooper of the State agency and John F. Wallace of the Martin Co. p. 22

IN the Idaho article, we view the value of area skill surveys in community economic development through the eyes of two "outside" agencies—the State Department of Commerce and Development and the Boise Chamber of Commerce. p. 24

OCCUPATIONAL wage surveys have many uses, says Dale S. Plank of the Oklahoma Employment Security Commission. The demand for such information arose largely with the Korean conflict. Oklahoma's first survey, based on BLS techniques and methods, was made in the fall of 1951. The 50 surveys completed to date have been well received and prove helpful to local office personnel and to employers. p. 26

WHEN rapid changes occurred in Utah's industrial setup, school training needed to be changed to keep pace. At the request of the Governor's Committee on Education and Training, the State Department of Employment Security developed occupational materials to be used in setting up school curricula. In this issue of the REVIEW, Hyrum Smith of the Utah Department of Public Instruction and O. Dean Call of the Utah agency stress the importance of early vocational exploration if able students are to be started toward the careers for which they are best suited. p. 28

THE Greensboro, N.C., local office really went into the "tobacco business" when the P. Lorillard Co. built a new plant in the community. Manager Howard W. Winstead tells how the local office, working closely with the company, recruited and screened workers to staff the plant, even when the number of employees needed skyrocketed. p. 31

Employment Security REVIEW

VOL. 26 APRIL 1959 No. 4

At press time

Labor Department Birthday Celebration

MARCH 4 was the 46th birthday of the U.S. Department of Labor. To mark the anniversary, the Department held its annual awards ceremony in Washington, D.C., to honor its employees.

The recently appointed Chairman of the Civil Service Commission, Roger W. Jones, was the principal speaker.

A special commendation citation was presented to the staff of the EMPLOYMENT SECURITY REVIEW by the President's Committee on Employment of the Physically Handicapped. In making the presentation, Gen. Melvin J. Maas USMCR, Ret., chairman of the committee, expressed appreciation for the many articles published over the years by the REVIEW in behalf of the physically handicapped.

Under Secretary of Labor James T. O'Connell, acting for Secretary Mitchell, presented honor awards. Distinguished Service Awards went to six employees, three of whom were from the Bureau of Employment Security—Edward L. Keenan, Ernest L. Marbury, and William A. Murphy. Meritorious Service Awards were presented to eight employees, including three from the BES—Lyon W. Brandon, Sidney A. Fine, and James A. Whitbeck.

Mr. O'Connell recognized the work of four groups by special group honor awards. The presentation of Length-of-Service Awards—for 40, 35, and 30 years—concluded the program.

Music for the occasion was provided by the U.S. Army Band orchestra.

In the foreword to the awards ceremony booklet, Secretary Mitchell said:

"I am pleased to participate in this program honoring outstanding employees of the Department of Labor, both in Washington and the field. I am not only very proud of their achievements individually, but recognize gratefully, that they are symbols of the faithful service of the Department's employees as a whole.

"The members of the Department who are receiving special recognition on this occasion serve as an inspiration to all employees of the Department of Labor. Our ideal of constantly increasing and making more valuable the Department's service is strengthened by the example of these coworkers we honor today."

Forums for Mature Women Workers

A NEW, practical approach to meet the needs of mature women job seekers throughout the United States was announced recently by Mrs. Alice K. Leopold, Assistant to the Secretary of Labor and Director of the Women's Bureau. The new plan encourages the leadership of The National Federation of Business and Professional Women's Clubs, Inc., in the conducting of Earning Opportunities Forums for Mature Women Job Seekers.

Initiated in early 1956 as part of the Department of Labor's program for older workers, the community forums focus attention on the types of jobs and training available to women and on the women in the locality who are available to fill them. The 1-day meetings bring together women who are seeking employment, representatives of employers, and members of the community who are seeking to help women find suitable employment. The National Federation of Business and Professional Women's Clubs will encourage the Career Advancement Committees of its State and local groups to originate and promote Earning Opportunities Forums wherever practical and possible.

The new plan for increased forum activity of this women's organization is extremely significant and is a step which should benefit older women job seekers throughout the country. "The National Federation

of Business and Professional Women's Clubs," Mrs. Leopold said, "is a unique force in the lives of business and professional women. It has 40 years of experience and know-how. In addition, its members are dedicated to their mission of elevating standards for women workers and extending their opportunities in industrial, scientific, and vocational activities." The Federation has a membership of 174,000 in 3,300 clubs in the 50 States and the District of Columbia and Puerto Rico.

Of today's women workers, some 8 million, or more than a third of the total, are 45 years of age and over. This fact indicates that mature women can and are contributing immeasurably to the well-being of the Nation and apparently are performing their work to the satisfaction of their many employers. However, mature women who have never worked outside of their homes and older women seeking new opportunities sometimes encounter difficulties in locating employment. This is one of the reasons for the forum and its practical approach to the various problems of older women workers and job seekers. Programs of this kind not only focus public attention on a social and economic problem but actively seek satisfactory solutions.

In future forums, The National Federation of Business and Professional Women's Clubs will receive the assistance of the Women's Bureau, Bureau of Employment Security, and nongovernmental organizations which have cooperated in earlier forums. These include labor and management groups, religious, civic, and other groups concerned with increasing earning opportunities for women; and such women's organizations as the American Association of University Women and the Altrusa, Pilot, Quota, Soroptimist, and Zonta Clubs.

Forums have already been held in Baltimore, Md.; Boston and Springfield, Mass.; Washington, D.C.; Seattle and Ephrata, Wash.; Philadelphia, Pa.; St. Louis, Mo.; St. Petersburg and Miami, Fla.; Little Rock, Ark.; Denver, Colo.; and Reno, Nev.

Counseling and Guidance Training Institutes

A TOTAL of 32 institutions of higher education plan to operate federally-financed Counseling and Guidance Training Institutes this summer under provisions of Title V, Part B, of the National Defense Education Act, U.S. Commissioner of Education Lawrence G. Derthick announced in March. These institutes are aimed to improve the qualifications of persons who are, or will be, engaged in counseling and guidance work in the secondary schools.

Improvement of counseling methods is expected to increase substantially the number of able students who continue their education beyond high school and so enable the Nation to make the best use of potential talent in the rising generation, Commissioner Derthick said.

Employment Security Activities at a Glance, January 1959
United States and Territories

	Number or amount	Percentage change from—	
		Previous month	Year ago
Employment Service—Total			
New applications	896,200	+22	−19
Referrals:			
Agricultural	180,800	−51	−42
Nonagricultural	694,300	+2	+12
Placements:			
Agricultural	166,600	−53	−44
Nonagricultural	397,900	−2	+12
Men	214,600	−4	+18
Women	183,400	0	+6
Handicapped	19,600	−4	+12
Counseling interviews	151,900	+12	+14
Individuals given tests	128,500	+17	+18
Employer visits	109,600	−1	+2
State Unemployment Insurance			
Initial claims, except transitional	1,772,300	−7	−22
Weeks of unemployment claimed	10,682,200	+14	−15
Weekly average insured unemployment [1]	2,480,200	+19	−12
Weeks compensated [2]	9,532,500	+19	−11
Weekly average beneficiaries [2]	2,166,500	+25	−7
Average weekly benefit payment for total unemployment [2]	[3] $30.40	0	+1
Benefits paid	$274,663,100	+19	−11
Funds available as of January 31, 1959	$6,746,442,600	−3	−20
Veterans [4]			
Initial claims	13,300	−8	−64
Weeks of unemployment claimed	135,600	+1	−48
Weekly average insured unemployment	31,800	+9	−48
Benefits paid	$3,485,900	+5	−50
New applications	184,300	+14	−33
Referrals, nonagricultural	150,100	−8	+9
Placements, nonagricultural	102,100	0	+15
Placements, handicapped	9,100	−2	+21
Counseling interviews	24,200	+18	−14
Unemployment Compensation for Federal Employees [5]			
Initial claims	17,700	+26	−8
Weeks of unemployment claimed	160,400	+2	−16
Weekly average insured unemployment	38,700	+15	−11
Benefits paid	$4,798,300	+4	−15

[1] *Data exclude Territories.*
[2] *Includes data under UCFE program.*
[3] *Includes estimated data for Connecticut.*
[4] *The first 4 items relate to the program based on the Veterans' Readjustment Assistance Act of 1952. Data for first 3 items exclude UCV claims filed jointly with other programs.*
[5] *Data exclude claims from Federal workers with both Federal and State wage credits.*

Occupational Facts for a Better Employment Service . . .

Modernizing the DOT

By CARL A. HEINZ, *Chief, Division of Placement Methods*
and EMANUEL WEINSTEIN, *Occupational Analysis Branch*
Bureau of Employment Security

THE technological changes and the development of new industries during and since World War II have had a sharp impact on occupations and their makeup. Some jobs have become obsolete; others have undergone fundamental changes; and new jobs have emerged on the scene. Some of these changes are revealed by the volume of requests for occupational code revisions which the local employment offices throughout the country send in to the national office. With the appearance of new jobs and basic changes in traditional jobs concerned with new technologies, such as automation and the peaceful uses of atomic energy, it became increasingly evident that the Dictionary of Occupational Titles, the basic occupational information tool used in local offices, should be revised to reflect more effectively the current status of the changing occupational picture.

Such a revision is now in progress. To assist in this large undertaking, the services of various State employment agencies have been listed,[1] and valuable contributions are being made. Cooperative projects with selected State agencies are underway in such activities as job analysis in specific industries and occupational categories, job definition writing, and functional occupational classification research. Persons involved are providing technical assistance in addition to applying their knowledge of local office activities and needs to the development and preparation of operational occupational analysis products.

These cooperative activities with the State agencies have led to the establishment of four occupational analysis field centers. They are located in Elizabeth, N.J., St. Louis, Mo., Detroit, Mich., and Los Angeles, Calif. The prime purpose of these centers will be to render intensive assistance in a national program of occupational research activities, including the development of techniques and materials. Each center will be staffed by State personnel and will be administratively responsible to the State agency. However, they will receive their assignments from and will be technically responsible to the national office. In addition to the work activities of these centers, there will be supplemental special occupational analysis projects performed by other States.

In order to achieve a published revision of the DICTIONARY OF OCCUPATIONAL TITLES within a reasonable period of time, the first efforts of the centers will be concerned with the verification of the present occupational coverage in the Dictionary.

To get the program for a revision of the Dictionary underway, it was first necessary to train the analysts who staff the centers. Training sessions were held in November 1958 and February of this year at the national office. Among the topics covered were new approaches to job analysis, new concepts of worker traits and work performed, considerations for a new classification structure, streamlined job definition verification procedures, and the preparation of job definitions that would delineate more clearly the work activities and job requirements of occupations.

The bulk of the information in the present Dictionary will be reassessed on an industry basis by direct observation of jobs in plants. New and revised definitions based on this observation will be prepared by the State analysts. Definitions of professional occupations will be verified through cooperation with pertinent professional associations. Needed data for occupational classification research also will be obtained for all jobs.

Among the goals for a new edition of the Dictionary are: (1) To have the content of the definitions reflect more sharply the job duties and worker requirements; (2) to clarify the overlap of occupational content among present job definitions; (3) to expand the coverage for professional and technical occupations; (4) to bring the occupational information up to date;

[1] *Heinz, Carl A., "A Team Approach to Occupational Analysis,"* EMPLOYMENT SECURITY REVIEW, *December 1957.*

New analysts from the Occupational Analysis Field Centers in California, Michigan, Missouri, and New Jersey attended a 3-week training session in Washington, D.C., in February 1959 on methods for the modernization of the DICTIONARY OF OCCUPATIONAL TITLES. They are shown here with their national office instructors.

and (5) to incorporate a new classification structure that will present more clearly the interrelationships among jobs.

Job Definition Content

Recent research in occupational analysis at the national office has brought about the refinement of techniques and standards for describing job duties and delineating the requirements for successful performance of these duties. The results of this research, when applied to the preparation of job definitions, should make for a more effective presentation of occupational information. It is intended to include directly or by implication, where feasible, data on critical or unusual physical demands and working conditions, interests, temperaments, training, aptitudes, and similar pertinent information. In addition to the basic functions of application and order taking and counseling, such occupational information will be most helpful to local offices in their dealings with unions, employers, schools, and other groups.

Concepts of Job Activities

The clear delineation of what activities constitute a job, and the attempts to describe these activities and allocate them distinctly in a classification structure have presented problems ever since the Dictionary was first published in 1939. At that time, for example, two groups of laborers were set up, "Laborer" and "Laborer, process." Subsequent experience showed that such a distinction was not valid, and this approach was eliminated from the second edition of the Dictionary.

It was found also that when jobs are grouped together under one title and code on the basis of similarity of function, local offices can classify workers more easily and hiring practices are reflected more realistically. Instances of such groupings appear in the second edition. For example, jobs concerned with packing materials and merchandise appear under the title, "Laborer, packing"; those concerned with putting information on goods and containers appear under the title, "Laborer, marking."

Work has continued in the attempt to describe the content of jobs in such a way as to more truly reflect the job situation in the economy. In this connection, one State agency concerned with reviewing occupations in the automobile manufacturing industry recently was able to develop 3 new job definitions to replace 176 separate definitions now appearing in the Dictionary.

Professional and Technical Workers

Since the publication of the second edition of the Dictionary, there has been a growing number of professional and technical workers and jobs. In keeping with this growth, State employment agencies have established pilot professional offices and have provided placement services at the conventions of professional organizations. The national office also has attempted to keep pace with this growth by reviewing the professional and technical occupations in the Dictionary.

Number of Job Definitions for Two Editions and Supplement I (1955) of the Dictionary of Occupational Titles

DOT editions	Number of defined jobs	Number of new and revised definitions
1939 edition	17, 452	
1949 edition	22, 028	7, 873
Supplement I (1955)	2, 260	2, 260

For example, studies of Home Economists, Statisticians, and Rehabilitation Therapists have been completed. Studies of psychologists and technicians assisting engineers and physical scientists are in progress.

It has been estimated that by 1965, there will be an increase in employment of almost 40 percent in the professional and technical group—the greatest percentage increase of any of the major occupational groups.[2] The new edition of the Dictionary will provide information on professional and technical occupations at a time when an increasing number of workers in these occupations will be coming to the local offices for assistance.

Current Information

The bulk of the information published in the second edition of the Dictionary is based on data obtained prior to 1940. The 1955 Supplement to this edition attempted to overcome this handicap to some extent by providing more current information on jobs in agriculture and in the canning and preserving; clock and watch; medical service; nonferrous metals, alloys and products; and ore dressing, smelting, and refining industries.

In order to reflect the industrial changes which have been taking place, the definitions for some industrial designations in the 1955 Supplement were revised. In some instances, the titles also were changed. Thus "Radio Broadcasting" was changed to "Radio and Television Broadcasting," "Radio Manufacturing" to "Electronics," and "Rayon and Allied Products" to "Synthetic Fibers." Further study of the industrial designations is going on in order to reflect the changes in the 1957 edition of the Standard Industrial Classification Manual. For instance, a new industrial designation definition has been prepared with the title of Powder Metallurgy.

New Classification Structure [3]

The occupational classification research undertaken to date is resulting in the emergence of a new, single occupational classification structure to replace those contained in volume II and part IV of the Dictionary. The research involved a critical investigation into eight components considered fundamental to occupational classification: Aptitudes, interests, temperaments, physical capacities, working conditions, training time, industry, and work performed.

The "work performed" component includes considerations of the worker functions; work fields; and the materials, products, subject matter, and services. The new classification structure based on such factors and considerations will present more clearly the interrelationships among occupations, and will reflect the workers' traits necessary for successful performance of the occupations.

[2] *"Our Manpower Future 1955–1965," U.S. Department of Labor.*
[3] *See Fine, Sidney A., and Heinz, Carl A., "The Functional Occupational Structure," The Personnel and Guidance Journal, Vol. 37, No. 3, November 1958.*

New Jobs in the American Economy

Console Operator.—Monitors and controls an electronic computer that automatically processes data to solve mathematical, engineering, or technical problems, or to maintain business records by operating a central control unit known as a console.

Dosimeter Final Assembler.—Assembles tiny subassemblies to make instruments for measuring small quantities of radiation.

Nuclear Engineer.—Engages in some professional activity involving or relating to nuclear processes. Range of activity involves the procurement, purification, and preparation of nuclear fuels; the designing, implementation, and operation of nuclear reactors; the utilization of reactors for the production of power or radioactive isotopes; and the application of nuclear processes to medical, physical, and industrial research. The nuclear engineer usually is a graduate engineer in one of the standardized fields of engineering such as electrical, metallurgical, or aeronautical. However, in any of the fields of engineering that he elects he is able to recognize, understand, and deal with nuclear phenomena.

Presser.—Compresses metallic powders into various shapes and blanks (compacts) in unheated molds, using mechanical or hydraulic presses and pilling machines.

Printer, Plastic.—Prints colored designs on surface of plastic film by machine.

Programer.—Develops and prepares diagrammatic plans for solution of scientific, mathematical, business, and technical problems, by means of automatic data-processing equipment.

Radiation Technician.—Determines degree of radiation exposure by examining exposed film from or reading dials of detection devices worn by employees.

Radiation-Detector Assembler.—Assembles jeweled watch-type movements and cements nylon brushes on to beryllium parts to make radiation detector devices.

Radio Chemist.—Exposes elements to radioactive sources to render them radioactive in the form of isotopes using remote handling equipment. May design equipment for processes involved in operations.

Recorder Operator.—Reproduces radio broadcasts, rehearsals, auditions, training courses, conferences, and similar programs or transfers transcribed material to other sound-recording media, using tape, wire, or disk recording machines.

Rocket-Engine Technician.—Plans and directs setup of testing apparatus and conducts performance tests of rocket engines and components.

Pinsetter Mechanic, Automatic.—Maintains and repairs electrical and mechanical parts of automatic pinsetting machines in bowling alleys.

Vegetable Packer.—Counts vegetables and fruits or weighs them on scales which compute total price. Places them in plastic bags or on trays and wraps trays in plastic sheet. Seals bags or wrapped trays with electrically heated sealing iron.

The new structure is designed to be both flexible and adaptable to operating needs of local offices. It will permit the exposure of workers to maximum job opportunities based on their work experience, training, and potentialities.

At times during the interval between the publication of editions of the Dictionary or supplements to the Dictionary, there arises an immediate need for occupational information concerning certain occupations. When this occurs, separate releases are published. For example, a brochure containing descriptions of jobs concerned with electronic automatic data processing is being released. A publication of job descriptions of technician occupations concerned with research design and development currently is in preparation.

The present aim is to publish a Dictionary which will contain more comprehensive, accurate, and up-to-date occupational information. Plans are now being developed for a systematic method of keeping it up to date. In order to attain this goal, there will be a growing need to call upon State agencies who, by virtue of their technical ability and knowledge of operating needs, will be able to provide the assistance necessary to keep the Dictionary abreast of current developments.

Facts for Better Service . . .

A Custom-Made Survey

By **WILBERT RAUCH**
District Manager, Racine
Wisconsin State Employment Service

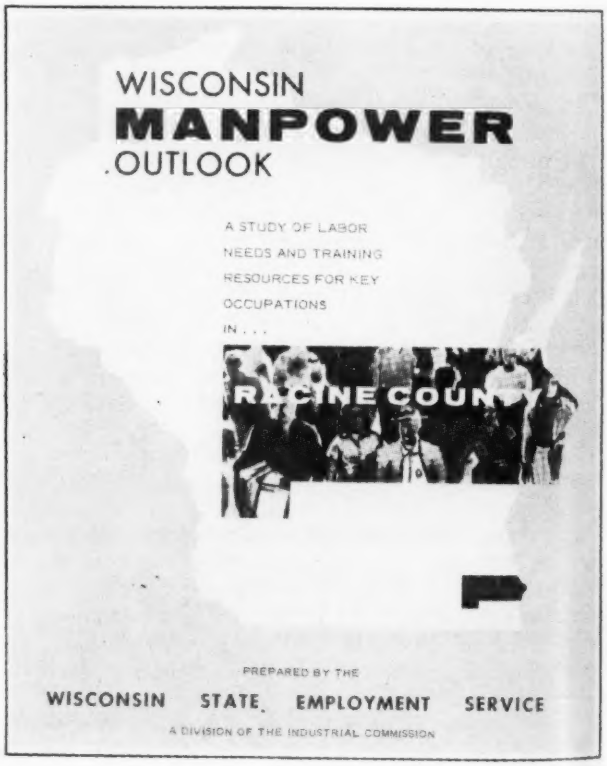
THE report—the front cover of which is shown on this page—is the result of a custom-made survey initiated in Racine in early 1957 and completed in January 1958, with appropriate review and followup in January 1959. It contains a description of the anticipated supply and demand in selected occupations for Racine County by 1962. The occupations include professional, technical, clerical, and skilled trades. The results were obtained by surveying a group of employing establishments selected to include a good representation from all those in the area.

The purpose of the survey, as explained in the introduction, was ". . . to provide information about the anticipated need for workers in 50 occupational fields, which were considered significant in the structure of Racine's labor market. We believe that the results presented in this report will be helpful to unions, civic and government groups, management and school training agency officials, and any other individuals or groups interested in improving the labor resources of Racine."

The report is a compact, 50-page printed booklet. It utilizes graphs, charts, and tables in describing the results of almost a year of compiling and analyzing information from many sources. This is the story of how it came to be.

Early in 1957 the district office manager was offered the opportunity to cooperate in a manpower survey. The staff was enthusiastic and felt that perhaps it would be the answer to a perplexing and recurring question being currently debated by Racine industry, education, and allied agencies.

The schools wanted to know from industry and business what would be the nature of labor demand in the future. Business and industry wanted to im-



Cover of the Racine County manpower survey.

prove the caliber of students graduating from the local schools. They complained that recent graduates lacked the basic training required for their occupations. But neither group was able to pinpoint what jobs were concerned, and the magnitude of the problem to the satisfaction of the other.

When the Wisconsin State Employment Service administrative office pledged support, the Racine staff was determined that our survey would accomplish its purpose. We wanted objective answers to this nagging question, "What occupations are going to grow in Racine, and how can we prepare for this growth?"

The district office contacted schools, agencies, and establishments and indicated our intentions. We requested and received close cooperation from all concerned.

The administrative office assigned competent personnel with experience in statistics and analysis. These men were responsible for planning, expediting materials, and carrying the program to the finish. The local office furnished information, expedited appointments, prodded personnel men to complete questionnaires, and gave the parties concerned sufficient information so that the program was thoroughly understood. The recommendations the local office made to the administrative level during the survey were the result of our previous experience in this area. They proved of great value to the men at the administrative level.

The completed survey was presented and distributed to the Personnel Association, the Education-Industry Committee of the Manufacturers Association, and union officials. At a dinner meeting held in the Manufacturers Association offices, the Personnel Group was the first to hear the conclusions of the survey. Debate and discussions were encouraged. Comments were favorable. But the district office manager really learned the impact of the report during the next few days when personnel men called to express their opinions, after reading and digesting the report.

A second presentation was given the Education-Industry Committee at a luncheon meeting. Men who had attended the previous meeting were interested enough to return for a rehearing. We were satisfied by now that the survey was being accepted.

The survey was also presented and explained to AFL–CIO officials and members in their meeting hall. The reactions were enthusiastic. Active discussions showed a healthy interest.

The survey was publicized in the local paper in a well written news story which clearly explained the conclusions of the report. An editorial was written based on the survey's conclusions and a cartoon by the staff cartoonist commented on the conclusions of the report (see next column). Everyone, not just the organizations and firms involved, was concerned over the fact that there was clear-cut evidence of a future lack of trained personnel. The demands of industry in the future would be greater than the future labor supply.

RACINE JOURNAL-TIMES

EDITORIALS

Racine, Wisconsin — Saturday May 11, 195

LEADING THE WAY

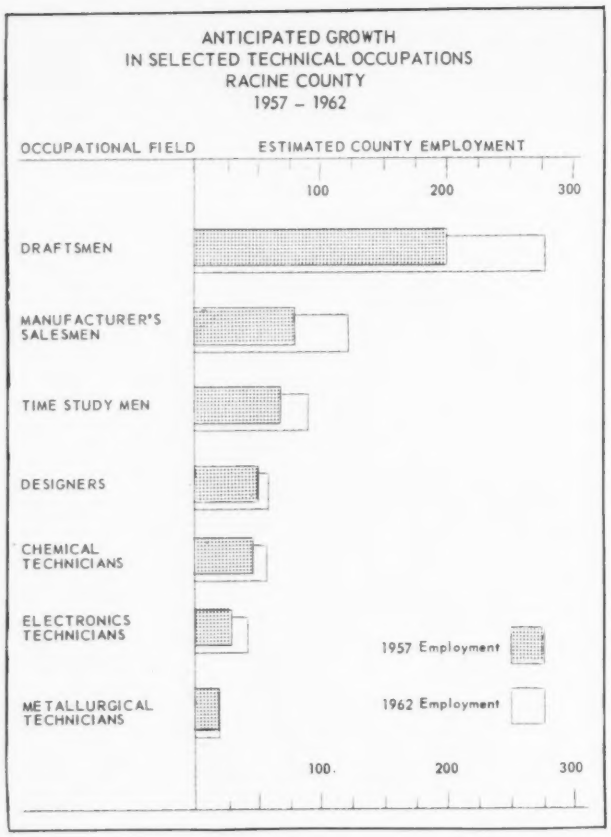
NEWS ITEM: Racine is chosen as first Wisconsin city to be the site of a survey financed by the U. S. Labor Department to learn what occupational lines now have or are likely to have labor shortages or surpluses, and what should be done to meet or prepare for them.

Shortly after our work was completed, however, business conditions in this area, as in other areas, became depressed. There were substantial layoffs in all types of industry, trade, and service. Included in the layoffs were a substantial number of trainees, apprentices, and learners—the one type of worker for which there would be a dire need in the near future.

In addition, a large manufacturing establishment moved out of the city. Again school officials, Manufacturers Association officials, and union officials realized that shrinking training programs would result in even greater skilled manpower shortages in a few years.

Once again, they turned to us, "What is the current situation?" they asked. "Have the recession and the local industrial losses altered the outlook for our skilled occupations? How can we fight this cutback in training and continue to build for our future requirements?"

We answered by suggesting a reappraisal of our local situation. A followup on the original survey appeared to be in order. We put our problem up to the analysts who had helped with the study. "Is it possible," we asked, "without a complete resurvey, to see where we stand now? How much difference would there be in the future skill requirement if a large plant suddenly closed?"



Their answer was quick and conclusive. On the basis of trends established in the original study, no one employer could influence the ultimate need for skilled workers by more than a very small margin. Short-term recession or not, the need for skills would still outdistance the supply of such skills in Racine County.

These answers were what we needed. We appeared again before the Personnel Association. A short followup report was presented and distributed to the members. The conclusions of the original survey were justified and the urgent need for long-range planning was emphasized. From that point on, the idea really started to catch on.

The survey has come to mean better employer relations, better counseling, and better participation in community employment planning. The followup reiterated the conclusions of the original survey and pointed out that even with a slight business pickup the demand for trained workers would again be urgent.

The local office has discovered that the survey is extremely useful in the counseling program. The industry services program utilizes the booklet as an authoritative reference to establishments complaining of a lack of trained personnel. In the field of community participation, the survey has been a valuable tool.

Counselors utilize the material in talking with high school seniors. They tie it in with the "Job Guide for Young Workers," issued by the Bureau of Employment Security, which is used extensively. The counselors translate the pertinent information on local job opportunities and training opportunities to the students. A counselor may point out to a student the fundamental qualifications of, for example, a machinist. Then, referring to the survey, he can indicate the relative size and importance of the occupation locally.

The counselor also provides information on the requirements of the job, the demand anticipated, and the location of the job. He uses the many charts and tables in the survey book and explains that the figures represent local firms. He describes the industrial coding and translates it for interested firms.

Counselees Want to Know

Counselees frequently exhibit great interest in occupational information. They want to know, "What are the opportunities here at home?" They want the information pinpointed, "Where can I get this kind of training? In what firm? To whom in the firm do I talk?" They may ask questions about job opportunities in other sections of the country, but specifically they want to know, "Where? At the J. I. Case Co.? At this or that foundry? Exactly where?"

When ERRs visit employers and find a need for trained men, the survey results are checked and the need among similar industries and similar occupations is discussed. Training programs are seriously recommended.

As a result of the study, one of our local foundries made a survey of its personnel and discovered that the average age was over 45 years. The personnel men reasoned that this age problem would soon be causing them skill shortages. The facts were presented to management along with a proposal for a constructive training program. Such a program has not yet been initiated but the groundwork has been laid, the warning has been sounded, and it appears that the warning may be heeded.

A local printing and publishing firm, already boasting an excellent training program, will step up its training. Their staffing is built around bookbinders, photoengravers, pressmen, and printers. The survey indicates an increased need for these trained men. The company is taking the proper steps to avoid shortages.

Education and industry in Racine are presently working together to provide training to men in shortage occupations. School counselors have been alerted by the conclusions pointed out in the Wisconsin Manpower Survey for Racine County. The superintendent of schools requested that copies of this booklet be distributed to the majority of teachers in the junior and senior high schools. The University of Wisconsin Extension Division in Racine reports a substantial use of the report by its counselors and teachers.

The Racine Adult and Vocational School worked hard on making training programs available. The school is presently filled to capacity with students

attending classes to improve their abilities in their field of work. Enrollment is actually greater than that in other cities with greater population. The local office staff believes that the publication of facts contained in the Racine County Wisconsin Manpower Outlook report has done much to promote this interest.

Much thought is being provoked in schools and industry toward remedial programs. The warning contained in the survey is well understood. The local office believes that further action will be taken by individual groups. We have had requests from particular establishments for information on special occupations. They ask, "How bad is it in our establishment?" This is especially true in establishments that depend on a specific occupation as a nucleus for their total production.

The survey has brought us much closer to all establishments in the area. The close cooperation necessary from personnel men has resulted in a better knowledge of the problems in all establishments. Our staff has been alerted to the particular needs and requirements of the employers we serve.

It is obviously impossible to measure precisely how much good the survey has done or will do locally. In any event, there are no more requests from local agencies or establishments that "someone ought to make a survey." It seems that ours, the Wisconsin Manpower Outlook for Racine County, was a most complete survey. It was authoritative, conclusive, and well accepted as a guidepost for future manpower planning.

Atlanta Study Points Up Training Needs

By **MARIA M. MALLET**

Assistant Chief, Reports and Analysis

Georgia Employment Security Agency

THAT the Nation faces a serious—perhaps crucial—crisis in the entire field of training and education has been widely recognized and discussed. One specific phase of the overall problem which has great significance for the employment security program is the proper placement of individuals in jobs utilizing their maximum capacities and the development of a labor force with the educational background and sufficient skill and versatility to support a complex and diversified industrial economy.

Considerable attention has been given to collecting data and projecting estimates of employment and future needs in various occupational categories. While studies on a national basis point up overall shortages in key occupations or in broad occupational categories, solutions are dependent upon individual actions in local communities. In Georgia, as elsewhere, accurate and current information on employment by occupation has been lacking and no factual data existed for appraisal of needs for training of skilled workers in the various occupations.

The Atlanta metropolitan area has the largest concentration of population in Georgia and furnishes employment to more than one-third of the nonfarm workers in the State. In view of the rapid diversification in the Atlanta economy and the growing need for higher skilled personnel in industry, many local industrialists, as well as educational and planning agencies, considered that a survey of skilled manpower and the future outlook was urgently required.

Such a study was conducted by the Employment Security Agency of the Georgia Department of Labor, with the advice and technical assistance of the Bureau of Employment Security. This study was enthusiastically sponsored by the Industrial Bureau of the Atlanta Chamber of Commerce. The concern of management with manpower problems is reflected by the fact that 292 employers participated in the survey. All manufacturing industries were included and the employment coverage represented about four-fifths of all manufacturing workers. The report was published under the title "Atlanta Skilled Workers in Manufacturing."

The selection of occupations to be studied was based on the industrial pattern in the area and included those in which long-term shortages existed, and which were considered necessary to the industrial expansion of the area. All occupations selected require training of at least 1 year and many require 4 or more years. A few professional and technical occupations in which shortages would be very significant were also included.

The information on training, including comments of employers, indicated an absence of any definitive training plans. Development of the skilled labor force in the area has apparently been dependent on informal training by foremen and experienced workers. Most employers seem to rely on upgrading as on-the-job experience is acquired, recruiting from turnover at other plants, and on inmigration.

Many firms indicated an unwillingness to train workers in higher skills because of the expense involved and the fact that, once trained, workers would be attracted by higher wages at other plants. The

498998—59——2

Mrs. Mallet discusses skilled worker needs in the Atlanta area.

obvious conclusion is that management would gain from industrywide cooperation on apprenticeship training programs, as well as support for vocational schools, in expanding and improving community training facilities. Uncoordinated individual action must be replaced by a jointly planned and sponsored program if serious shortages are to be avoided.

The demand for skilled workers in the Atlanta area during the past few years has, in large part, been supplied by inmigration of employees for large firms which have located here. Many out-of-State firms, when opening a new branch, bring some key personnel from other locations and they, in turn, train local workers in these skills. Many other workers have moved in of their own accord, attracted by expanding job opportunities, while some large concerns have actively recruited in other areas.

Three major nondurable industries—food processing, textiles, and apparel—are well developed in both Atlanta and the State. Among durable goods industries, transportation equipment (automobile and aircraft assembly) is of importance in the Atlanta area. There is little production of primary metals, fabricated metals, and machinery. To develop these industries will involve a heavy demand for skills which are locally in short supply.

In our expanding economy, much planning by management accompanies industrial growth both in the enlargement of existing plant facilities and in the choice of new locations. Five of the controlling factors most often mentioned are:

1. Proximity to market.
2. Adequacy of transportation.
3. Labor supply.
4. Relationship of site to other industries or to other locations of the same firm.
5. Personal reaction or preference.

Labor supply is usually one of the prime considerations. Traditionally, the emphasis has been on *number* of persons, on the assumption that if the choice of applicants were wide enough, selection of suitable workers would not be difficult. The demand is constantly becoming more urgent for *quality* workers. Modern processes require operators with better education and special training in more advanced skills.

The quality and quantity of labor in Georgia is generally rated by management as highly satisfactory. Abundant help is still available and can be trained for production line operations in from 1 to 3 months. However, bottlenecks do exist at highly skilled levels, particularly in the tooling occupations.

Planned training for manufacturing skills is not extensive in Atlanta. In both the apprenticeship and training programs and the local vocational schools, there is far heavier enrollment in nonmanufacturing trades than in manufacturing. The officials of the

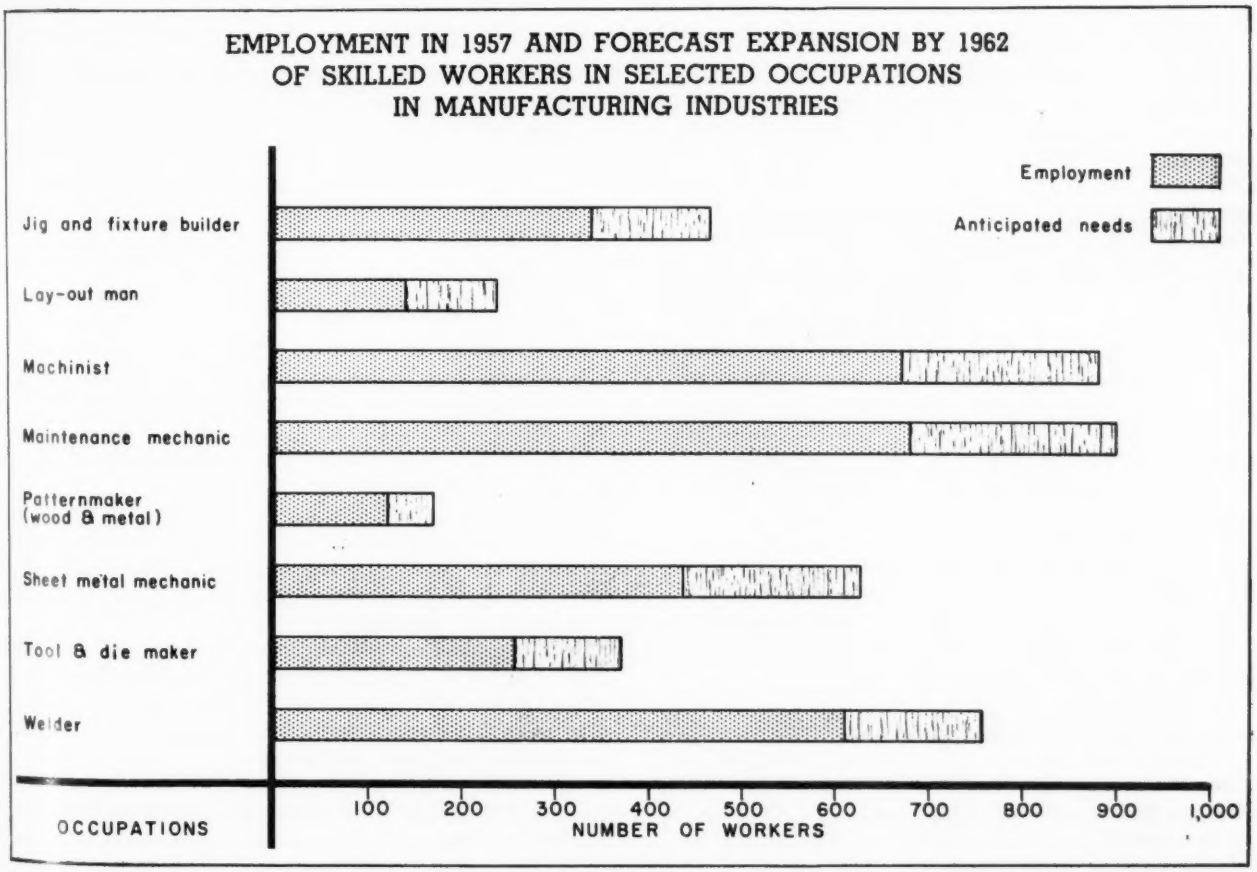
training programs have until now been hampered by an almost complete lack of factual information concerning the number of workers in the various occupations and the outlook for future needs. They are relying heavily on the results of the Atlanta study for building up their vocational programs. Plans are underway for establishing new training schools in various towns over the State as well as a large training center in Atlanta. It is anticipated that the planning of the curricula and establishment of these centers will be, to a large extent, based on the findings in the Atlanta skill survey.

The results of the study have already been found very useful in Employment Service operations. The data on the employer replies to the questionnaire were transferred to individual cards indicating the variety of occupations, present employment, and anticipated need for each skill listed. The data were also grouped by occupation, indicating for each grouping the names of employers hiring workers with the particular skills, within the four-county area. These cards were distributed to the various interviewers handling these skills. This has given them an up-to-date reference for job development contacts for specific applicants and for promotional telephone calls when a large number of applicants in the same occupation are unemployed.

Local office counselors are already using the survey to point out to new entrants to the labor market the potential for particular occupations. They are attempting to guide these applicants into fields in which they are interested and in which there appears to be a good future in this area.

Very often current or prospective employers require information on what the labor market will be able to offer them in the future. Many of these firms contemplate expansion or moving into the area. They need the information not only for current use but for long-range planning. For the first time, they can forecast fairly accurately, based on the survey, what their training problems will be or whether they will need to resort to recruitment from other areas unless area training facilities are improved. On the other hand, skilled craftsmen in other areas contact the Employment Service for information on prospects in their trade in this area. The study has enabled labor market analysts and other Employment Service personnel to give more concrete replies to these questions.

Employer relations representatives must frequently point out to employers that shortages exist and assist them in evaluating their problem. The study emphasizes to industrialists that joint action in the field of training needs to be taken and that they cannot continue to rely on inmigration or recruitment of



Employment projections are shown here for 8 of the group of 36 skilled, professional, and technical occupations covered by the Atlanta survey, "Atlanta Skilled Workers in Manufacturing."

workers who have been trained in other plants. "Buying" workers from competitors is becoming increasingly expensive—often prohibitively so. Employers with whom the study has been discussed appear to be keenly aware of this.

The Industrial Services analysts have found the report helpful and effective. They often receive requests for information on training. Many employers state that they have intended to introduce a training program and need assistance with the problem. The survey has stimulated this interest in training and emphasized the situation with considerable impact.

It is quite evident that the publication is being used in a variety of ways, although it was distributed only a short time ago. It is a major step in Georgia in finding the solution to a problem which apparently is on the verge of becoming acute.

AMARILLO'S MANPOWER NEEDS*

By **MAURICE ACERS**
Commissioner
Texas Employment Commission

IN ITS 70 years of phenomenal growth, Amarillo has made many contributions to the economy of Texas and the Nation. None, in my opinion, has been more significant as a community effort than the Amarillo Skills Survey which the Texas Employment Commission is making public here today. It is the most comprehensive and ambitious survey of its kind which the TEC has made for any city. But the credit is rightfully yours. You asked for it. You gave us your full support. You made it possible.

We are proud to turn this survey over to Amarillo today for use in any and every way your city planners and leaders may conceive. We want this blueprint of a community's future worker needs and shortages put to use. Amarillo will do that, we are sure.

Now—let's take a close look at why this study is a significant milestone in community awareness.

Over 1,400 employers supplied details about 27,772 workers. This study indicates that Amarillo faces two challenges:

First, to direct, guide, and plan local programs to assure sufficient future manpower with the needed training in specific fields of work; and

Second, the need for community effort directed at attracting inmigrants with specific professions, skills, or training where local supplies are not adequate.

One is as essential to the development of Amarillo's future as the other.

The necessity to prepare manpower for future production needs confronts every region of the United States. Our Nation is rocketing along at a production pace which amazes and startles the other peoples of this globe. New machines and equipment spur the production of individual workers. Over the years, average annual production per worker increases by some 2 to 3 percent. If our production pace is held, the average worker of 1970 will produce about one-third more than today. The improvement in machinery and methods will create some of that increase, but not all.

Human skills must advance in the same proportion. Such manpower skills do not grow like weeds. They must be planted and cultivated. It is, therefore, as vital to Amarillo's future to know about its future manpower needs as about its raw materials, its water supply, and its market potentials.

Some of you may think of the Texas Employment Commission primarily as an agency which pays unemployment compensation to men and women who have lost their jobs through no fault of their own—but this is not our major function.

Jobs are the Commission's basic concern. The men and women who work in our 89 local offices spend more hours on job placement than they do on unemployment insurance claims. The best help we can give an unemployed person is to find him a job. The best service we can render the 70,000 employers who pay for the Texas unemployment insurance program is to help them recruit and select the men and women to do their jobs most effectively.

**From an address before the Amarillo Chamber of Commerce, Jan. 7, 1959.*

Cover of the Amarillo manpower survey.

A recent survey of 49 Dallas employers estimated that it cost between $150 and $300 to put on a new skilled worker locally, and from $300 to $500 if the employer must go farther afield to recruit him. Of what value, then, to Texas employers was our placement service which filled 459,000 nonagricultural jobs during 1958? There is no mathematical answer, but we do know that Texas and Amarillo employers are exacting only part of the benefit from this service which is theirs for the asking.

If we're to do the job for you in 1962 that we should, we must know the character and makeup of your manpower needs. We must know what jobs we will be called upon to fill.

We are already moving to inject the findings of the Amarillo Skill Survey into our planning and operations. These estimates of future skill needs will be invaluable to our job counselors working with your public schools. They will guide our contact representatives in discussing with you your future needs. But perhaps most important, they will give the management of our TEC local office the base for evaluating the complexion of the constantly changing labor supply and giving you realistic information and assistance.

But the most important users of the survey are you—the civic leaders of Amarillo. There are many ways in which you may use such facts. A city planning commission can embody this survey into its blueprints for the future. Any developer will find here an invaluable guide for his future projects. Retailers can study these projections before deciding upon future locations. The possible uses are unlimited.

Between 1950 and 1957, Amarillo's industrial employment was increased by 12,950 workers. By 1962, manufacturing establishments will require some 14,750 net additional workers. In order to meet this need, a gross number of 19,950 additional workers must be found because 5,200 will be needed to replace losses from the labor force due to deaths, retirements, and withdrawals.

From where will these 20,000 additional people come? There will be about 8,080 graduates of local high schools, business schools, and colleges. Some 7,600 workers will inmigrate, most of them from nearby and remote rural areas. (This is a *net* estimate, for a few thousand will leave the Amarillo vicinity for job opportunities elsewhere.) Many of the inmigrants will be workers with no specialized skills. This could create a surplus of unskilled labor.

These facts point to the necessity for training programs. Inmigration will not satisfy your future need for skilled labor without good planning and stout effort on your part. Community effort can attract skilled workers as needed.

Your chamber of commerce and other civic groups have done outstanding work in publicizing the area's potential for new industry and business. The same initiative can work wonders in attracting needed human skills. Intelligent factual broadcast of specific job opportunities and skill needs will ease the growing pains of skill demand.

Occupational Groups	Total, All Industry			
	Male	Female	'57 Total	'62 Total
PROFESSIONAL	2,330	1,365	3,695	4,875
SEMIPROFESSIONAL	605	265	870	1,305
MANAGERIAL & OFFICIAL	3,005	350	3,355	3,805
CLERICAL	2,625	5,735	8,360	10,705
SALES	2,660	1,475	4,135	6,415
SERVICE	2,445	2,895	5,340	6,520
SKILLED	6,520	160	6,680	8,995
SEMISKILLED	4,325	505	4,830	6,750
UNSKILLED	4,485	550	5,035	7,130
TOTAL	29,000	13,300	42,300	56,500

Amarillo 1957 employment and projections for 1962, by major occupational groups.

AMARILLO METROPOLITAN AREA
CIVILIAN POPULATION AND EMPLOYMENT
Census (1950), Estimated (1957), and Projected (1962)

POPULATION & EMPLOYMENT	1950	1957	1962	Five Year Increase to '62	Pct. Increase 1957 – 1962
Civilian Population	87,200	134,340	179,000	44,660	33.2
Persons 14 yrs. & over	64,700	93,340	120,000	26,660	28.5
Civilian Labor Force	38,000	52,450	67,200	14,750	28.1
Unemployed	1,100	2,350	1,900	-450	-19.1
Employed Total	36,900	50,100	65,300	15,200	30.3
Agricultural Employment	1,600	1,700	1,900	200	11.7
Nonfarm Employment	35,300	48,400	63,400	15,000	31.0
Private Household Workers	900	1,050	1,300	250	23.8
Industrial Employment	34,400	47,350	62,100	14,750	31.2
Self-Employed	4,800	5,050	5,600	550	18.8
Industrial Wage & Salaried Wkrs.	29,600	42,300	56,500	14,200	33.6
Construction	3,800	3,780	5,175	1,395	37.0
Manufacturing	3,600	3,750	6,525	2,775	60.7
Transp., Commun., & Util.	5,100	5,135	6,000	865	17.0
Wholesale & Retail Tr.	11,000	13,000	16,775	3,775	29.0
Finance, Insur., & Real Est.	1,500	2,140	3,285	1,145	53.4
Professional Services	3,300	4,410	5,880	1,470	26.0
Other Service Industries	3,800	4,040	5,700	1,660	41.0
Government (not included elsewhere)	1,100	3,765	3,985	220	5.8
Mining	700	1,130	1,875	745	66.0
All Other Industry	400	1,150	1,300	150	13.0

In addition, you will have some 4,270 young men and women drop out of elementary and high schools to enter the labor force on a full-time basis. These, of course, will have nominal education and little training. If anything is to be done about improving the productive capacities of these future citizens, it must be done now. These young people must be encouraged to continue their schooling. Young people with aptitudes for skilled trades must receive practice and training while in school.

The local training output for clerical workers will provide 4,725 new employees, an excess of 500 over the 4,225 estimated workers needed. But this oversupply extends only to general and miscellaneous clerks. Amarillo's retail firms will face a *shortage* of bookkeepers, office machine operators, secretaries, stenographers, and typists without a careful projection of training plans by industry and the schools. The facilities for training the needed help in retail trade are already here.

Some service occupations are already meeting their worker demands with training programs. Barbers, beauticians, practical nurses, and nurse aids are being readied for future service at a satisfactory pace. But the restaurant industry faces continued difficulty in obtaining qualified cooks and waitresses.

What are the implications of the survey for present programs in the industrial occupations? Indications are that current training schedules will meet only one-third of the demand for machinists and machine-shop workers; less than one-half of the demand for cabinetmakers and woodworking occupations, for welders, plumbers and pipefitters, and maintenance mechanics; just about one-half of the demand for ironworkers and blacksmiths, sheet metal workers, and automotive mechanics; close to two-thirds of the needs for electricians; and *none* of the demand for brick-masons and tilesetters.

The prospect is about the same for professional and semiprofessional groups. The local training load at present will meet only about one-third of the projected demand. Planned importation may be the answer; a growing population will in itself attract doctors, dentists, lawyers, clergymen, social workers,

social scientists, and many types of engineers. But these specific shortages can certainly be mitigated by local effort. Amarillo students enrolling in out-of-area universities and schools may be encouraged to pursue training as engineers, architects, copywriters and reporters, physicians, dentists, and pharmacists. They should be informed that their best opportunity when they have trained themselves is their own home town.

The Amarillo survey indicates that the present training for managerial and executive personnel fails to meet the 1962 challenge by 70–90 percent. This doesn't imply a critical shortage, since over one-third of the expected increase will be met by inmigrants. Local industry, however, should continue to give consideration to the necessity for stepped-up formal inplant training programs. You must tap the resources of the young graduates with formal training in business administration or special courses in management. It is far more practical to develop your own executives than to shop around in the open market.

Amarillo's manpower future, on the whole, is brighter than the average city's. The gloomiest forecast of 1962 would indicate frictional unemployment of about 2,000 people. The people will be here to fill the jobs, and the jobs will be here for people. Many of the difficult areas can be attacked through carefully planned training directed to changing demands in specific skills and by well-directed projection of job opportunities. The TEC will help you in any area which falls within our functional program. It is our earnest wish that between now and 1962 we may play a constructive role in the building of a greater Amarillo.

Bringing the DOT Up to Date for the Lumbering Industry

By **JAMES V. LACY**

Employment Security Technician

Oregon State Employment Service

THE DICTIONARY OF OCCUPATIONAL TITLES, which was first published in 1939, has gained wide acceptance in realms other than employment security, especially in the fields of personnel administration and vocational guidance. This vast storehouse of occupational information is one of the most significant contributions ever made to these fields.

The Dictionary is undoubtedly the most widely used tool of the Employment Service. Of all the tools available to the local office, it alone is indispensable. It is utilized in practically every phase of local office operations—interviewing, classification, placement, counseling, and industrial services. Industry has recognized and accepted the Dictionary as an essential tool of personnel administration. Leaders in the field of vocational guidance have long extolled the virtues and efficacy of this publication.

The adequacy of any occupational information is predicated on its being authentic and up to date. Technological changes and economic expansions which have occurred since the Dictionary was first published have created new jobs and changed or consolidated existing ones. The second edition, published in 1949, and the supplement of 1955, represented attempts to keep abreast of these changes and to meet the needs for additional and current information. It has since become evident that there still remains a large number of jobs which are either inadequately defined or missing from the Dictionary.

Two early studies, published by the Oregon agency, took cognizance of the need for accurate job descrip-

James V. Lacy confers with an employer with regard to job information.

Loading long logs onto a truck in Oregon.

tions. "Job Specifications for Western Oregon Logging Operations" was issued in 1939 and was followed by "Job Specifications for Western Oregon Sawmill Operations" in 1940. These volumes furnished local offices the latest data on jobs within this industry and strongly influenced the services rendered to applicants and employers.

In the early 1950's, the Oregon agency gave recognition to the changes that were occurring in its basic wealth-producing industry, lumber and lumber products. Logging methods had undergone extensive changes; sawmills were being redesigned to meet present-day needs; new industries were being developed to utilize waste and residue wood; and the plywood industry was threatening to replace lumber as the leader in the world of wood products. The metamorphosis of the old industries and the establishment of new ones produced numerous new jobs and changes in the old ones.

The lumber industry has become more and more mechanized. For many processes, manual labor has been reduced or eliminated through the installation of electronic controls and semiautomatic and automatic machines. As the demand for unskilled labor diminished, the request for workers with new and higher skills increased. An increasingly greater number of orders was received for workers in occupations which were either inadequately defined or not to be found in the Dictionary.

Proper selection of workers, a primary objective of the Employment Service, demanded a better knowledge of the skills and abilities of the worker and the physical demands and working conditions inherent in the new jobs.

As the result of these changes in the lumbering industry, the Oregon agency embarked on a long-range program of reevaluating the occupational information on the lumber and lumber processing industry. Job analysis studies were conducted in the logging, shingle mill, sawmill, cooperage, and planing operations, as well as in plywood and other wood processing activities. Copies of these analyses were forwarded to the Bureau's national office.

Late in 1955, the Oregon agency was requested to participate in the preparation of materials on occupations in the lumber and wood processing industries for the new edition of the DICTIONARY OF OCCUPATIONAL TITLES. As the first step, it was necessary to provide training to a technician of this agency in the methods, techniques, and procedures of definition writing in which the worker traits concept was an integral factor.

To achieve the objectives of this project, it was necessary for the technician to become thoroughly familiar with all the jobs and processes in the lumber and wood processing fields. This fund of knowledge was obtained by the technician through a review of numerous job analysis schedules provided by the national office, supplemented by additional information from textbooks, magazine articles, pamphlets, and brochures.

The technician made visits to some of the largest logging operations of the State where he observed such activities as falling, bucking, loading, and yarding. He had numerous telephone conversations and personal visits with employers, union officials, and employer associations to clarify points of information. In all of these contacts, the technician was given a

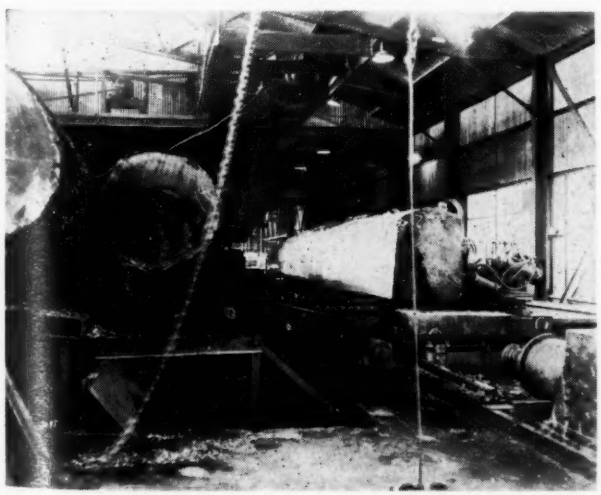
very favorable reception and the information received added materially to the results of this project.

Using the job analysis schedules furnished by the Bureau, the technician reviewed the jobs found in the schedules against the Dictionary definitions. All schedules describing a particular job were reviewed simultaneously. If no definition existed for the job under consideration, a new definition was formulated. If the definition in the Dictionary was adequate, the schedule was coded directly. In many instances, it was necessary to revise or rewrite the existing definition in the light of the new or additional information contained in the schedules. In some cases, only a minor revision such as a word change, adding or substituting industrial designations, or alternate titles was necessary.

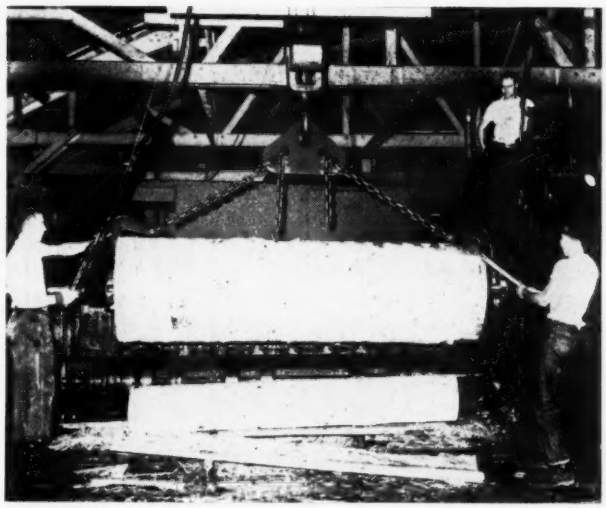
The majority of the new definitions resulted from advances in wood technology and were found primarily in those industries which had come into prominence in recent years. The definitions in volume I of the Dictionary concerned with lumber and lumber products were reviewed with two purposes in mind. First, we wanted to combine definitions in which the job duties were so similar that one definition would suffice, and second, we wanted to determine which jobs had become obsolete and to delete them from the Dictionary.

In combining definitions, the title which seemed to be the most appropriate was used as the base title. Other titles were used as alternate, related, or undefined related titles. By such combination, considerable space was saved and the resulting definition became adequately functional for all of the jobs which were combined.

With the rapid development of modern logging methods and the trend away from utilization of rivers in operations, many of the jobs which were found to be obsolete in Oregon were concerned with the horse and river phases of the industry. Another phase which has undergone drastic changes is that related to "railroad" logging, which was rapidly giving way to "cats" and trucks.



Head rig of a large Oregon sawmill.



Chucking a peeler log in a lathe of an Oregon veneer mill.

A list of obsolete jobs was compiled and submitted to Arizona, California, Idaho, Montana, and Washington for verification. With few exceptions, the jobs were also found to be obsolete in those States, too. As a result of this survey, a recommendation was made to the Bureau to delete these classifications from the Dictionary unless evidence was found that they still existed in other parts of the United States.

The preparation of new definitions was not simple. Many times it was necessary to discuss jobs with representatives of industry to obtain additional data needed to clarify vague points of information encountered in the schedules. The final wording of the definitions was the result of many rewritings and staff reviews to obtain the precise combinations of words and phrases to describe adequately the job under consideration.

In the actual writing of the definitions and revisions, the instructions in the "Guide for Dictionary Definition Writing" issued by the Bureau were followed. The overall purpose of a definition is to report accurately what the worker does, why he does it, how he does it, and the skill involved in performing the work.

To insure that these four elements in the definition were covered adequately, a checklist was developed by the Bureau by which each definition was to be evaluated. The six categories of information for this purpose are worker action; objective or purpose; machines, tools, equipment, and work aids; materials, products, subject matter, or services; worker relationship to things, data, and people; and criteria of acceptable work. The use of this checklist further insured that all angles of the job were covered and shown in proper relation to each other.

In the new concept of the definition, greater emphasis is placed upon the physical demands and working conditions involved. These are essential if the placement officer, counselor, or other worker is to match effectively the applicant's qualifications to the requirements of the job. Again, in this area, the

(*Continued on page 32*)

The Technician and Our Changing Industry

By EUGENE F. MACAULAY
Research Analyst
Minnesota Department of Employment Security

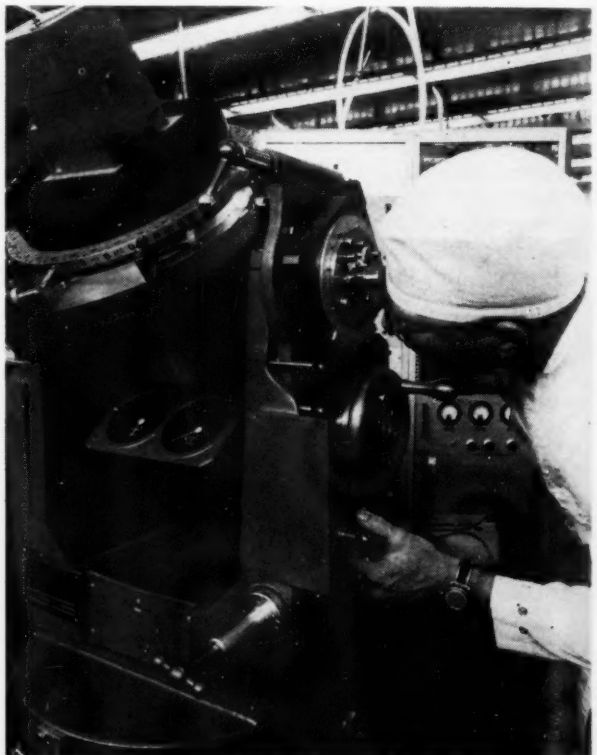
THE Research and Statistics Section of the Minnesota Department of Employment Security is entering the second year of a study of the work of technicians. When we started this project, the most immediate problem was the proper identification of the occupation technician. In order to gather the data necessary to make this identification, we decided to study the occupation in the establishments where it was known to exist.

A sample group of firms was selected from two sources: (*a*) Those known to the agency because they were covered by the unemployment insurance law and (*b*) establishments in noncovered industries, various area directories, and a list of Government agencies located in the area. A preliminary survey form was sent to all employers in the sample asking them to list the title and number of employees for each technical classification in their organization. From this information, the types of technicians and their distribution, by employer in the Twin Cities metropolitan area, were determined.

The duties and responsibilities of the job, technician, had to be spelled out clearly in our initial letter so that each firm participating in the survey could easily determine if it had an employee who would qualify. The technician had to be separated from the semiskilled or skilled craftsman and the engineer. The initial letter sent out by the agency carried the following identifying subject matter relative to the technician:

"For purposes of this survey, a technician is defined as one who relieves the professional scientist or engineer of some of the more routine functions normally alloted to him. He is able to perform these tasks because of training received on the job or technical training he has obtained in college or vocational school. Normally, the technician will have some knowledge of the basic theory embodied in his field of work. He may apply this knowledge in one of several capacities. He may directly assist the scientist or engineer in research or development; he may spend most of his time performing quality control testing of raw materials or production items; or, in some fields, he may be assigned to maintenance and repair work."

A very important fact was brought out following the mailing of the introductory letter. Within a 30-



"Threading a needle in the sky"—missile guidance engineers' slang for accurately guiding a missile throughout its course—can be accomplished with this supersensitive siderial-drive equatorial mount. The timing mechanism is 7 times more accurate than a railroad conductor's watch.

Photos courtesy Minneapolis-Honeywell Regulator Co.

Special evaluation device used by technicians to check linearity of gyro inductive pickoffs.

day period, more than 90 percent of the companies contacted had answered. We felt that this unusually high return, percentagewise, indicated a desire on the part of industry to participate.

It was soon clear to all members of the Research staff that we were entering a period of major industrial change. The electronic age was here and the very suddenness of its appearance caught many who should have been prepared, unprepared. This upheaval is not only changing the composition of our local and national labor force and increasing the need for job information and training, but it has also placed an added responsibility on our educational institutions.

There are strong indications that most of our major companies are placing more and more emphasis on the use of workers in technical occupations. Firms such as the Minneapolis-Honeywell Regulator Co. have been constantly increasing the use of persons on technical jobs. Various types of work just below the professional level appear to be within the abilities of their technicians. Much of the work on two of their latest developments, the Vanguard missile control and the new nuclear warhead, was done by *technicians*.

Rapid growth in the demand for technicians is reflected in other activities. For example, the Minnesota Highway Department is presently using 980 individuals in technician positions and the demand is expected to double in the next 5 years.

The research technician is playing a very important role in industry today. Kimball Cummings, associate director of Aero Research, Minneapolis-Honeywell Co., says this of the research technicians:

"The research technician is part of a team and is primarily a person with either mechanical or electrical skills. Obvious characteristics of the technician are some education in science and mathematics, some shop practice, specified training in the chosen field, and several years experience under proper guidance."

We cannot overemphasize the important role the electronics technician plays in our present-day engineering and scientific field. Changes are occurring so fast in the electronics industry, it is impossible for engineers and scientists to keep pace. The shortage of properly trained technicians has forced these professional personnel to perform many tasks which technicians, if they were available, could handle.

Industry has turned to our general education and vocational institutions for properly educated and trained technicians but have found that the schools, for the most part, could not meet the demand for competent technicians. The Minnesota research staff has assisted industry and vocational schools in the area by studying technician job requirements and responsibilities and by preparing reports and analyses

ELECTRONIC TECHNICIANS

If you have experience in installation, repair, testing or inspection of airplane or missile radar or electronic systems, Boeing has career openings for you NOW. These are openings with plenty of opportunity to get ahead.

Assignments include work on advanced military and civil jet aircraft and supersonic guided missiles.

At Boeing you'll be associated with the world leader in long-range jets. You'll enjoy many advantages, including excellent working conditions, paid vacations and holidays, and a retirement plan.

Equal job opportunity for all qualified applicants.

Apply in person at

Minnesota State Employment Service
510 1st Ave. North, Minneapolis
8:30 A.M. to 5:00 P.M.
Monday, February 2 through Friday, February 6

BOEING

which are transmitted to the supervisory and teaching staffs in the schools. At the present time, the State Employment Service group is working with three major cooperative education and industry committees.

At the conclusion of our recent survey, we determined that there is currently a shortage of properly trained electronic technicians, and that at least 5,000 additional such workers will be needed in the Minneapolis-St. Paul area within the next 5 years. Despite this shortage, some of the larger national firms with headquarters out of the area are seeking electronic technicians in this area.

All local Employment Service offices in the State received a supply of our two publications on the Electronics technician: "An Occupational Guide for Electronics Technicians" and "Your Career Guide: Electronics Technician." The "Occupational Guide" was prepared in looseleaf form especially for our local office counselors and high school vocational counselors. Supplemental occupational and labor market information will be added periodically to keep the contents on a current basis. The "Career Guide" pamphlet was prepared as a "giveaway" for the counselee or jobseeker; our local offices had the responsibility for its distribution to area high schools.

Early in February, representatives of the Boeing Aircraft Corp. were recruiting electronics technicians in the Minneapolis local office (see newspaper advertisement on p. 19). Their work was facilitated by the fact that copies of the "Career Guide" pamphlet were available to pass out to job applicants. About 150 applicants were hired by the company.

Copies of our publications were also distributed to all firms in the Minneapolis-St. Paul metropolitan area which participated in the survey. Several of these companies requested additional copies. Numerous sessions were held with personnel from the Minneapolis-Honeywell Regulator Co. and Remington Rand Univac to clarify points in the study and to furnish further information. Extra copies of the publication were supplied to these two companies for distribution to their affiliated plants throughout the country.

As a direct result of our electronics technician survey, we have been asked to run special job studies and to prepare detailed job analysis schedules for several area companies. Recently, we were asked to assist the American Hoist & Derrick Co. by preparing a complete analysis schedule on a certain laboratory technician occupation within their plant. In conjunction with this study, we are turning over the analysis of work performed and the related performance requirements to our area vocational schools for the preparation of classroom curriculums for laboratory technicians in the foundry industry.

In the course of our study of the work of technicians, we found industry representatives willing and eager to participate. As a result, we were able to make our contacts at a higher level of management than is often possible. This fact, in turn, led to unusually good and prompt assistance from personnel all along the line in area plants. Through this means, we found a real opportunity to bring to industry the story and the services of our employment security agency.

Washington Metropolitan Area Surveys Its Professional Occupations

By **KATHRYN N. FOX**

Manager, Professional Office

U.S. Employment Service for the District of Columbia

SOON to come off the press is a booklet entitled, "Employment in Professional, Scientific, and Technical Occupations—Washington Metropolitan Area." This study was initiated by the U.S. Employment Service for the District of Columbia, in cooperation with the Maryland Department of Employment Security and the Virginia Unemployment Compensation Commission.

The study had two objectives. *First*, it was made to determine current employment, by age group, in the professional, scientific, and technical occupations in the Washington metropolitan area; to measure the unfilled demand for workers in these categories; and to determine the needs for personnel in these fields in the future—specifically, 2 and 5 years hence. *Second*, it was to be used to establish an occupational index on professional, scientific, and technical workers from employers within the District of Columbia that could be utilized by placement officers for future job development.

The study covered employers located in all sections of the metropolitan area—the District of Columbia, the city of Alexandria, Fairfax and Arlington Counties in Virginia, and Montgomery and Prince Georges Counties in Maryland. Occupations included in the survey came under DICTIONARY OF OCCUPATIONAL TITLES codes 0–01 through 0–69, inclusive, and 0–74 and 0–91, with some few exceptions.

In general, the survey covered establishments which employ six or more persons. Some firms of this size were excluded, however, since we felt they would be unlikely to employ personnel in the professional occupations (for example, liquor stores and filling stations). Elimination of these establishments was made by visual inspection of unemployment insurance records which show industrial codes and number of employees. Approximately 3,800 firms were listed to be contacted by mail.

Since the purpose of the study was twofold, two survey questionnaires were developed. Each of the three cooperating State agencies mailed the DCES–6 (the long form) to all firms in its respective geographic area that employ 100 or more persons; to 20 percent of the firms employing 20–99 persons; and to 4 percent of those having from 6–19 employees. Of the approximately 3,800 firms listed from UI records to be solicited, the employer sample was selected on a percentage basis from 6–19 and 20–99 groups, which totaled 1,400 firms. Two hundred firms were eliminated from the sample since they had fewer than six employees. The remainder of the D.C. employer sample, or 2,200 firms, were sent a short form—DCES–5. With the data collected from this latter source as a basis, an Occupational Index was established for use by the USES for D.C.

The study was started with the assignment of one professional employee to prepare the groundwork. Within the next 2 months, another professional employee and a clerk-typist were assigned to the project. Since this was the first such study conducted in the metropolitan area, we realized that meticulous step-by-step planning was most important. Since the area is comprised of counties in both Maryland and Virginia, it was recognized also that close cooperation and coordination were essential in collecting the required data. Many conferences were held with personnel from the Office of Program Review and Analysis in the Bureau of Employment Security and with staff members from the USES for D.C. and the Maryland and Virginia agencies to reach agreement on methods and procedures to be utilized in the study.

Preliminary Steps

A number of steps had to be completed before the questionnaires were mailed out: Preparation of a procedural outline; preparation of the questionnaires; instructions for completing the forms accompanying the letters explaining the purpose of the study, the followup, and letters of appreciation for cooperation in returning the questionnaire; preparation of mailing list from unemployment insurance records; and contacting of professional and trade organizations and/or associations to obtain endorsement of the project.

Among the groups who endorsed our project were: The President's Committee on Scientists and Engineers, the Washington Board of Trade, Washington Personnel Association, and the District of Columbia State Federation of Business and Professional Women's Clubs.

After the questionnaires were mailed, a final cutoff date for their return was established. The staff concentrated on telephone followup with employers who had not responded promptly, with what we felt were excellent results.

After the data from the sample were compiled, they were "blown up" to the universe.

Where Are the Professionals?

The big problem facing our Professional Office personnel was to determine, if possible, where professional workers were employed and in what occupations. With this basic information, our placement specialists could start with cross-reference lead cards and plan campaigns accordingly. The information would also supplement that contained in the ES–330 Employer Record folders on file in various local offices.

As the questionnaires came in, a three-digit Occupational Index file was set up by preparing 5- by 8-inch cards, by occupational fields, for the use of placement staff. For each occupational field, the following information was recorded: Name of establishment, industrial code, job title, number of professional employees in the occupation (by sex), and anticipated requirements for both 2 and 5 years hence (when that information is available). For example, a questionnaire might indicate the following:

Firm "A" engages in research. Their professional staff includes: Accountants, economists, mathematicians, and statisticians. In 2 years, they expect to increase this staff by —workers and in 5 years by another— workers.

We learned from this questionnaire which occupations can be expected to expand as well as the specific number of new openings anticipated in each category. This information was transferred to four different lead cards which were given to the placement officers specializing in the business management, science, engineering, and related fields. The questionnaire was then filed in the employer record folder.

Each placement specialist is responsible for maintaining the 5- by 8-inch filecards related to his field of specialization. It is also his individual responsibility to use this information for developing job leads, making promotional telephone calls and field visits, and for mail and other promotional purposes. The medical placement specialist, for example, can tell at a glance which drugstores, hospitals, or clinics employ female pharmacists.

Out of 135 questionnaires examined by the local office manager, 74 current vacancies were noted. We discovered new outlets for artists and writers among that group. We also found new firms in the science field in which we may be able to place more professional personnel. Most important of all, we now have a better basis upon which to lay our foundation for planning, strengthening, and expanding our service to applicants and employers engaged in the "professional" fields of work.

Front of the new Martin plant at Orlando, Fla., indicates the modern architecture being used by new industrial plants throughout the State.

JOB KNOWLEDGE QUESTIONS FOR "SPACE AGE" INDUSTRY

By **JOHN M. COOPER,** *Field Representative*
Florida State Employment Service
and **JOHN F. WALLACE,** *Manager, Employment Department*
Martin Company, Orlando, Fla.

WHEN the missile boom hit Orlando, the local office of the Florida State Employment Service provided test selected assembler trainees to several companies for initial training. The Martin Co. had been well pleased with the 200 trainees their company had hired. They were soon faced with the problems of an expansion requiring almost immediate buildup of skilled manpower. Because of defense priorities in development of the missiles which this plant was to manufacture, the company needed skilled workers who would need little training in order to meet production deadlines.

Early in December 1957, the company requested help from the Florida State Employment Service in developing methods of screening skilled workers during recruitment activities for two critical technical occupations. A meeting between Martin Co. officials and State and local office representatives was arranged and held the second week in December.

The problem faced by the company in differentiating between skilled workers and those with only partial skills was the major topic discussed. The company was familiar with oral trade questions used during World War II and specifically wished something of this sort. The field representative agreed to contact other companies concerned with the development and manufacture of missiles and research personnel personally known to him, requesting any information available on research completed or underway in this field.

Three of the major missile companies were contacted and inquiries sent to four research psychologists. A negative reply was received from all.

A Navy plane carrying five Bullpup air-to-ground missiles manufactured by the Martin Co. at Orlando, Fla.

Another meeting was held with Martin officials and the procedures for developing job knowledge questions were discussed. After a careful study of the company's critical jobs, two were selected for a pilot study. Techniques used by researchers at the National Science Foundation, Lockheed Aircraft, and the Electronics Personnel Research Division of the University of Southern California were incorporated in the development of subject matter to be used. At this meeting, arrangements were made to interview engineers, foremen, and the company training officer to obtain subject matter to be used for the project. These interviews resulted in obtaining 123 questions for electronic technician (development technician), and 96 questions for electronic technician (testing technician), with little duplication of subject matter. These were reduced in roundtable discussion to 88 for development technicians and 63 for testing technicians.

A comprehensive interview form containing job descriptions (for verification), specific duties performed, work experience and education, including specific training in electronics, was developed for use in preliminary verification. These trial sets of questions were then administered to three sample groups, comprising skilled, related, and nonrelated workers. Responses given were verified with company personnel for accuracy and wording of questions was checked for clarity.

Questions Chosen Carefully

The number of questions was reduced to those showing the highest predictive value and the new set for development technicians was administered to 50 skilled technicians, 20 related and 23 nonrelated workers. The set of questions for testing technicians was administered to 30 experienced technicians, 14 related and 18 nonrelated workers. Only questions which revealed a critical ratio significant at the .05 level of confidence were included in the final set. This provided two forms each for development technicians and for testing technicians.

The sets of questions for development technicians provided only a differentiation between well informed workers and workers with some information, as it was necessary to combine the related and nonrelated groups to determine final cutoff scores. The two sets for testing technicians provided cutoff scores to differentiate individuals into three categories: Those well informed, those with some information, and those with little information. The final sets of questions were incorporated into a folder with specific instructions to interviewers for administering and scoring.

Tests Are Put to Use

Each recruiter and interviewer of the Martin Co. concerned with these two jobs was provided with copies of these tests. Interviewers in the Orlando local office concerned with these occupations and other offices where recruitment is constantly conducted were provided with copies for their use in screening electronic technicians for referral to the company. The company has indicated satisfaction with employees hired through the use of this screening and is keeping specific training time and production records to indicate the effectiveness of this method of selection against previous methods used. This particular screening device has eliminated the necessity of the Martin Co. sending technicians with recruiting teams for screening applicants for these two specialized occupations.

Future studies are currently planned, which will be concerned with other critical occupations.

Using Occupational Information For Industrial Development

BY JANUARY 1959, the Idaho Employment Security Agency had completed and published surveys of employers' current and future occupational requirements in 10 of the State's labor market areas. Surveys for several additional areas were in various stages of preparation. These occupational surveys, undertaken in cooperation with local economic development groups, indicate the number and kinds of nonagricultural jobs in a given area and provide estimates of future labor requirements. They are based upon data collected from local employers and have the following major objectives:

1. To augment information about the community's manpower resources for use in community economic development;

2. To provide information about area job opportunities;

3. To provide a basis for planning educational, training, and apprenticeship programs to meet future employment needs; and

4. To provide a tool for local public employment office use in job development activities.

The two articles below deal with aspects of the first of the listed major objectives.

▶ ▶ ▶ Idaho Department of Commerce and Development

LOUISE SHADDUCK
Secretary

THE Idaho Department of Commerce and Development is the newest Idaho State agency and for that reason has leaned heavily on other organizations to meet immediate needs for industrial and economic material. Various occupational studies conducted by local and county civic groups in conjunction with the Employment Security Agency have proved invaluable. During these early years of operation, and with an extremely small staff, the Department of Commerce and Development has taken advantage of ESA surveys to contact and inform industrial leadership throughout the Nation considering the establishment or relocation of plants in our State.

A number of new economic and industrial groups were formed during 1958, bringing the total to 10 such organizations in the State. These groups are:

Boise Industrial Foundation, Inc.—Boise.

Western Idaho-Eastern Oregon Industrial Development Council—Boise.

Caldwell Unlimited, Inc.—Caldwell.

Nampa Industrial Corp.—Nampa.

North Idaho Economic Development Association—Coeur d'Alene.

Weiser Industrial Development Co., Inc.—Weiser.

Gooding Industrial Development Co., Inc.—Gooding.

Twin Falls Industrial Development Commission—Twin Falls.

Industrial Lands, Inc.—Pocatello.

Shoshone County Economic Development Committee—Osburn.

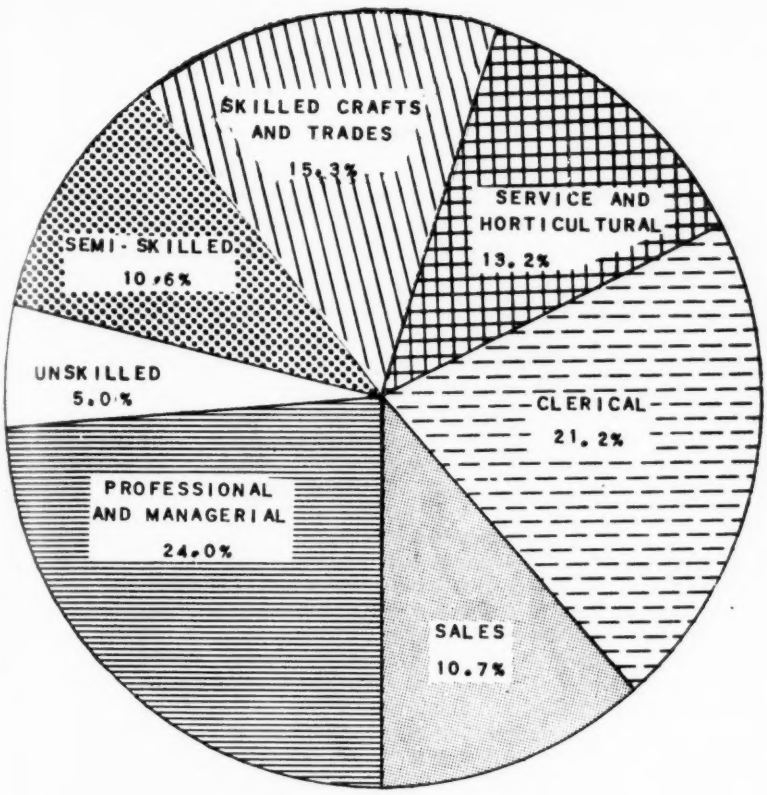
In addition to these groups, a number of local chambers of commerce have industrial and economic development committees which work closely with the Department of Commerce and Development. From time to time all of these organizations have utilized the material covered by ESA surveys.

The number of workers and the industries and occupations in which they are employed gives a prospective manufacturer an immediate picture of the type of community he is considering. The projected labor needs of existing establishments have also been helpful to the various communities in planning job placement.

The Governor told the 1959 session of the Idaho Legislature that the legislation designed to assist in the industrial development of Idaho has more long-term significance for this State than any other subject which the session might consider. The Governor has said: "In order to keep abreast of population growth in the next 4 years, we will have to create not less than 6,000 new jobs in each of these years. This is not an impossible task, but it will require dedication and all of our skill and energy and talent."

The occupational choices of seniors in high schools as listed in ESA surveys are most important in helping Idaho develop in a fashion to hold these students in our State.

Occupational Composition of Jobs, Boise Survey Area



One of the illustrations in "A Study of Occupations in the Boise Area" published by the Idaho Employment Security Agency under the sponsorship of the Boise Chamber of Commerce.

▶ ▶ ▶ Boise, Idaho Chamber of Commerce

ROGER B. McGINNIS
General Manager

SPECIAL and regular occupational facts and studies are used by the Boise Chamber of Commerce for industrial development, in factfinding, community economic reporting services, and the evaluation of educational programs in our local area.

To be more specific, we receive monthly employment statistics on the number of persons employed in various industry categories. This information is, in turn, used by us in our monthly Boise Billboard which is a compilation of basic business indexes. The business data are prepared as a Boise Business Barometer, and are used by all types of business reporting services to ascertain gains and losses in business activity in the Greater Boise business community.

The Barometer is also published by a local printing firm based on statistics gathered by our office, and distributed to several hundred business firms in the intermountain area. This combination of circularizing and disseminating business information plays an extremely important role in the development and expansion of businesses in the intermountain area.

It is universally recognized that a well-rounded business reporting service is dependent, among its important features, upon the accuracy and authenticity of its labor data. In addition to using city and county monthly employment information for our Boise Business Barometer, our office uses this current information to disseminate information to out-of-district wholesalers and distribution firms who are continually doing marketing studies. We also use these data to compile reports for prospective industries, and other business-professional prospects.

From time to time, special studies are made through the cooperation of the Idaho Employment Security Agency to augment the information we have developed for specialized business prospects relative to specific employment categories. These are used by us to answer specialized inquiries.

Of particular interest to our office has been the Occupational Study of Boise students which was compiled by the Idaho Employment Agency in 1957. The data gathered in this study have been used by our Chamber's Education Committee to evaluate student career counseling programs, and to develop an overall potential economic understanding program.

OCCUPATIONAL WAGE SURVEYS HAVE MANY USES

By **DALE L. PLANK**

Supervisor, Labor Market Analysis

Oklahoma Employment Security Commission

THE Oklahoma occupational wage survey program was instituted by the Research and Planning Division of the Employment Security Commission in September 1951 in response to the tremendous demand for occupational wage data from State and out-of-State employers.

The outbreak of the Korean conflict in 1950 caused much of this increased demand for wage data. Some employers were expanding plant facilities because they had obtained defense contracts, or were preparing bids for such contracts. As a result, many employers were hiring, or would be hiring, additional workers in occupations that had not been on their payrolls. These firms needed wage information concerning some or all of the new occupational hires. Employers submitting a bid on a contract needed additional wage information to estimate their labor costs.

Another important demand for occupational wage data came from chambers of commerce and industrial development organizations—public, private, and nonprofit. The slow but steadily increasing industrialization in the State brought demands from these groups for wage data to be supplied to potential and/or prospective industrialists.

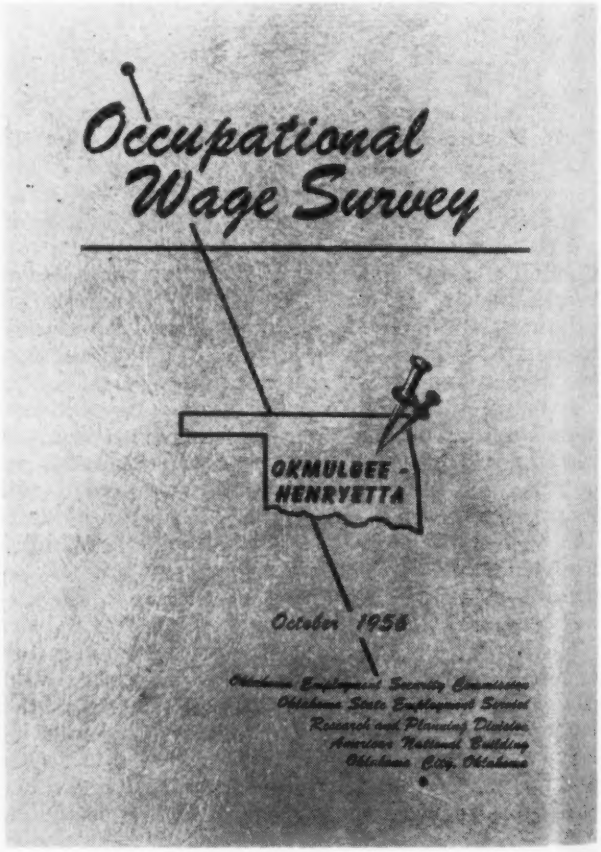
The Bureau of Labor Statistics techniques and methods of conducting occupational wage surveys are used in making the studies in Oklahoma. The writer and one other person of the Division staff were given formal training by wage analysts of the Atlanta regional office of BLS in the techniques of conducting wage surveys. In September 1951, the first wage survey was conducted in Muskogee, an Oklahoma city of intermediate size. Since that first study, wage surveys have been conducted in 15 other cities and towns, and recurring surveys have been made in 12 of these communities. To date, 50 occupational wage surveys have been conducted.

The Wage Survey Publication

Our publication, "Occupational Wage Survey," contains wage information by occupation, "fringe benefit" payments, and job descriptions of the occupations studied. Included are the occupational title, the number of workers in the job, average weekly straight-time hours, average weekly or hourly straight-time earnings, and a frequency distribution of the total workers by amount of earnings. Weekly earnings are reported for office and professional personnel while hourly earnings are given for plant workers. Occupational wage data for each classification are shown by major industry division whenever it is possible to do so without revealing firm identity.

The "fringe benefit" payment tables show the percentage distribution of the total office and plant workers by major industry division for the types of "fringe benefits" received. These tables show information for the following benefits: Scheduled weekly hours, paid holidays, paid vacations, paid sick leave, insurance and pension plans, and nonproduction bonuses, such as those given at Christmas or the year end and profit-sharing schemes.

Because of the variation in payroll titles and job duties from establishment to establishment and from area to area, a set of standardized job titles and job descriptions based on the DICTIONARY OF OCCUPATIONAL TITLES are used for all the studies. The occupational titles and descriptions of the jobs studied are included in the back of each publication.



Cover of a typical Oklahoma Occupational Wage Survey.

Uses of Occupational Wage Data

Internal use.—Placement interviewers in the local offices find this publication of value in assisting an employer to determine a wage rate for an occupation. Quite often an employer places a job order with the Employment Service, but he does not know what wages are paid in the occupation. By using the publication, the interviewer is able to inform the employer of the average community wage and the range of wages in the occupation. It is not uncommon, in such a situation, for an employer to place a job order at the average rate being paid in the community.

The claims adjustors make use of the area wage publication when wages are the issue in the disqualification provisions of the State law which have to do with the refusal of suitable work and voluntary separation without good cause connected with the work. If wage information concerning a specific occupation is published in the Survey, it becomes much easier for the adjustor to make a determination on whether the wages offered or wages being paid are substantially below wages paid for similar work in the area.

The Wage Survey is also used in connection with an important agency program, that of job analysis. After completion of an analysis of an establishment's personnel, a member of the agency staff reviews the analysis with the company's administrative people. It is pointed out that the information provided by the analysis of individual jobs may be useful for job evaluation. In the event that the company expands the job analysis information into the area of job evaluation, the Survey becomes useful for determining wages for key occupations in the various grades of jobs.

Company uses.—Local area employers make use of the Occupational Wage Survey in many ways. An employer who is experiencing high turnover in one or more of his job positions often discovers that the wage he is paying is significantly below the area average. Meeting the competition in wages may very easily eliminate this costly turnover problem. The Survey is also used by the employer to—

(1) Determine if his wages are competitive with those of other employers,
(2) Determine the wages for any job expansion,
(3) Determine labor costs when bidding on private or Government contracts,
(4) Make periodic wage adjustments, and
(5) Negotiate labor-management contracts.

Eliminates Duplicate Work

Employers have found that the wage publication has eliminated much of the need for them to make periodic wage surveys of their own. It has also stopped some of the inquiries for wage information from other companies and organizations. One of the largest manufacturing firms in the State, when contacted by firms or organizations for wage information, will not divulge wage data. Their reply in effect is, "Our wage data are contained in the Occupational Wage Survey for this area. We suggest you obtain a copy of that publication."

SUMMARY OF WAGES
OKMULGEE-HENRYETTA AREA / October 1956 /
OFFICE OCCUPATIONS

OCCUPATION	MEN		WOMEN	
	AVERAGE WEEKLY		AVERAGE WEEKLY	
	Hours 1/	Earnings 1/	Hours 1/	Earnings 1/
Billers, machine-billing-machine			40.0	$54.50
Bookkeepers, hand	50.7	$77.00	40.8	65.00
Bookkeeping-machine operators				
Class A			43.3	50.00
Class B			41.0	42.50
Clerks, accounting	40.0	94.50		
Clerks, general			41.7	47.00
Clerks, payroll			40.3	65.50
P. B. X. operator-receptionists			41.7	46.00
Secretaries			40.5	62.00
Stenographers, general			40.2	54.00

1/ *Excludes hours for which premium pay is paid; excludes premium pay for overtime.*

MAINTENANCE AND POWER PLANT OCCUPATIONS

OCCUPATION 1/	Average Hourly Rates 2/
Carpenters, (maintenance)	$2.26
Maintenance men, general utility	2.13
Mechanics, automotive (maintenance)	1.61

1/ *Data limited to men workers.*
2/ *Excludes premium pay for overtime and night work.*

CUSTODIAL, WAREHOUSING AND SHIPPING OCCUPATIONS

OCCUPATION 1/	Average Hourly Rates 2/
Janitors, porters and cleaners	$1.37
Janitors, porters and cleaners (women)	0.64
Shipping and receiving clerks	1.63
Truck drivers	
Light (under 1½ tons)	1.26
Medium (1½ to and including 4 tons)	1.65
Heavy (over 4 tons, trailer type)	1.13
Watchmen	1.72

1/ *Data limited to men workers, except where otherwise indicated.*
2/ *Excludes premium pay for overtime and night work.*

AUTO REPAIR SHOP OCCUPATIONS

OCCUPATION 1/	Average Hourly Rates 2/
Body repairmen, metal	$1.47
Greasers, automotive	0.83
Mechanics, automotive - class A	1.50
Washers, automotive	0.74

1/ *Data limited to men workers.*
2/ *Excludes premium pay for overtime and night work.*

SERVICE STATION OCCUPATIONS

OCCUPATION 1/	Average Hourly Rates 2/
Service station attendants	$0.83

1/ *Data limited to men workers.*
2/ *Excludes premium pay for overtime and night work.*

A sample sheet from the 1956 Okmulgee-Henryetta Wage Survey.

Industrial development uses.—The Occupational Wage Survey is in almost constant use by the industrial development committees of chambers of commerce and other industrial development committees and organizations. Because the average hourly earnings of the Nation's factory workers have nearly doubled since World War II, a prospective employer is concerned about an area's wage rates. A prospect, while in conference with industrial development groups, almost invariably requests occupational wage rate information. Prospective firms have been quite pleased with the publication and the amount of wage and related data it contains.

"Fringe benefit" payment costs are increasing not only in dollars and cents, but also as a percentage of total wage costs. Consequently, an employer, when

entering a new community, is interested in the "fringe benefits" that are provided to local employees.

Types of Wage Surveys

A wage survey consists of two segments: (1) A study of occupations common to a number of industries, such as stenographers and maintenance carpenters; and (2) a study of occupations common to a single type of industry. The former study, known as a cross-industry study, covers key jobs in the following types of occupations: Office-clerical; professional and technical; maintenance and powerplant; and custodial, warehousing, and shipping. We collect wage information for 76 occupations in these 4 groups.

In a wage survey of the latter type for the machinery industry, 86 occupations are studied. In addition to machinery, industry studies have been made of banks, auto repair shops, power laundries, over-the-road trucking companies, and fabricated structural metal products firms.

Community Acceptance

When we made our first community survey, employers' participated unenthusiastically. But today when a survey is conducted, 100 percent employer cooperation is the rule. The last wage survey made in Tulsa was in November 1957. The Tulsa local office manager and the labor market analyst estimate they have received over 100 telephone calls inquiring when the next wage study is to be made. Employers from all over the State wish to know why the studies are not made more frequently.

Frequency and Method of a Survey

The wage survey program is a continuing one. A wage study of the two metropolitan areas, Oklahoma City and Tulsa, is conducted about every 12 to 15 months. A study in each of 10 smaller areas is made every 18 to 24 months. In 1958, surveys were conducted in seven areas including Oklahoma City.

Key to Youth Career Planning . . .

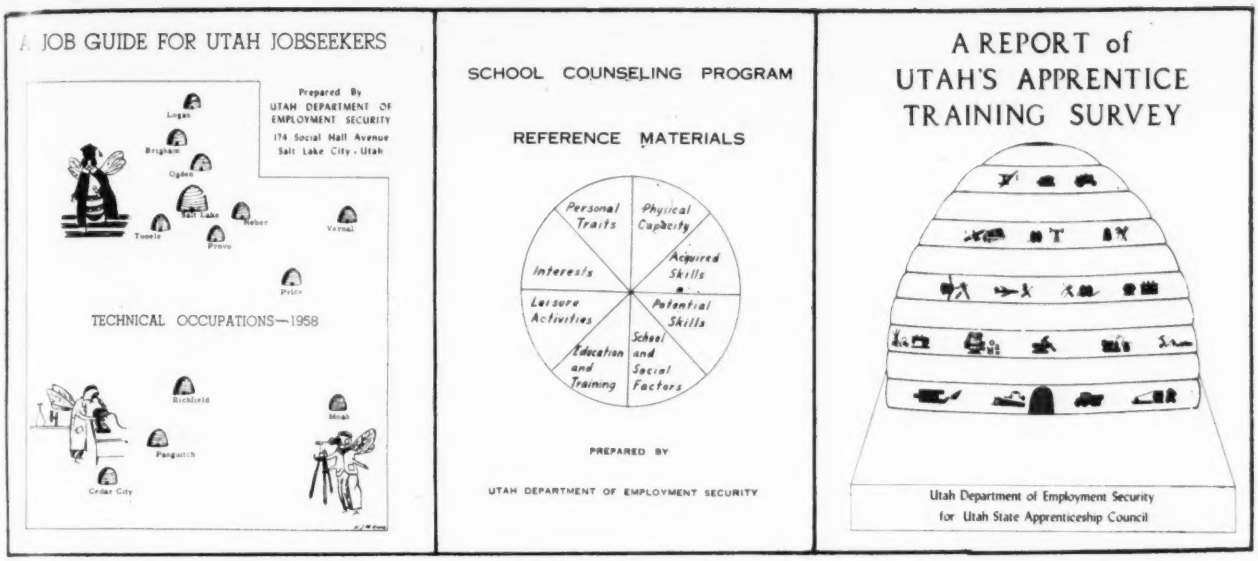
Early Vocational Exploration

By **HYRUM SMITH,** *State Director of Guidance Services*
Utah Department of Public Instruction
and **O. DEAN CALL,** *Project Supervisor, Maturation Studies*
Utah Department of Employment Security

IN EDUCATIONAL circles today great emphasis is being placed on the academically able students who comprise approximately 15 percent of the student population. At present, we are concerned about these able students, some of whom do not go on to institutions of higher learning but accept tasks that are under their mental capacity. A recent survey of three large high schools in our State indicated that among the upper 15 percent of able students, 20 percent of this number do not attend college. This presents a problem for individuals, schools, and society. We must accept the responsibility of helping able students, as well as all students, to find occupational opportunities commensurate with their abilities and interests.

Approximately one-half of the students who graduate from high school do not attend college. We must assume that the majority of these students have average capacity to learn and to succeed. Sixty percent of the students entering college do not graduate. The students who seek job opportunities immediately after high school or after 1 or 2 years of college become a sizable army with tremendous productive strength which our economy does not fully utilize.

Mrs. Catheryn Van Meter, a Utah teacher, assists a student in selecting suitable occupational material for a class assignment.



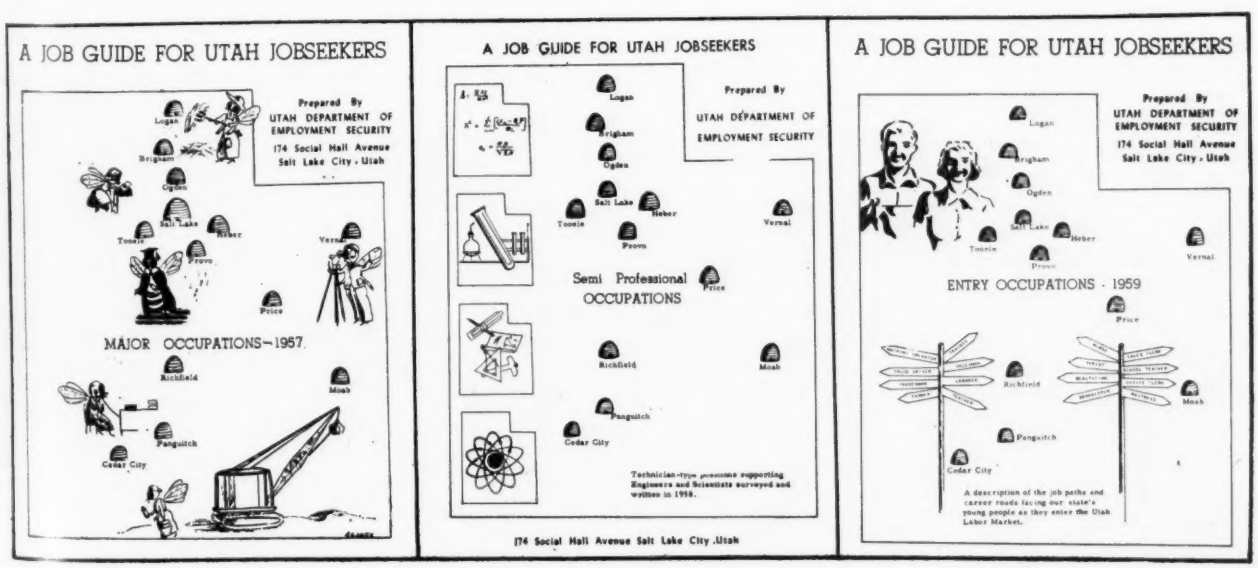
Covers of six of the occupational guides prepared by the Utah Department of Employment Security are shown on this page.

How best can we utilize the talents of all our young people? Dr. Bryant J. Conant states that we must identify the able students at least by the 7th or 8th grade and, by counseling students and parents and sound curriculum offerings, determine suitable and profitable goals for the student and society. In order to accomplish this task, local school districts need (1) the conviction that the well-being of the Nation may require the changing of curricula; (2) thorough organizing, understanding, and leadership within the schools to accomplish the tremendous problem of utilizing our young people's strength; (3) to make sure that school personnel search out every possible resource that will help them educate today's youth. It is at this point that local employment agencies render invaluable service and information to the schools and individual students. The Utah Department of Employment Security is continually developing ways and means to inform students—through school guidance departments—of job opportunities.

Recent years have seen a rapid change in Utah's industrial makeup. Old skills have required upgrading and new skills have been introduced. Along with this, there has been pressure for a modification of school training to meet these new needs.

Because of this pressure, some months ago Utah's Governor appointed representatives from industry and education to work with existing agencies and committees to determine what should be done. From this nucleus was developed the Governor's Committee on Education and Training. Forty-one representatives from educational institutions were appointed to this committee.

One of the Committee's recommendations was that more specific information concerning Utah's occupations should be prepared and disseminated widely



among those concerned with counseling young people. As a result, a mailing list was developed which included, among others, school counselors, student advisers, and school librarians.

Preparation of these new materials fell as a rather natural assignment to the Utah State Department of Employment Security. A plan was developed to publish a series of booklets entitled, "Job Guide for Utah Job Seekers." The series included booklets under such subtitles as: "Major Occupations," "Technical Occupations," "Semi-Professional Occupations," "Entry Occupations," "Local Government Occupations," and "Apprenticeship Occupations" (see pictures on the preceding page).

Other Guidance Materials

In addition to the Guides, two other booklets were also prepared by the Utah State Employment Service which are of considerable help in vocational guidance. The first was "Report of Utah's Technical Manpower Survey for Training Requirements." It dramatically pointed up the changing demands of our expanding industrial economy and has been used as a basis for developing and introducing new school curricula.

The second booklet was called "School Counseling Program Reference Materials." It was prepared primarily for the use of school counselors (rather than students) and contains such items as: An article on "Utah's Changing Labor Market"; a plan setting forth different ways of scheduling the administration of the GENERAL APTITUDE TEST BATTERY in schools; a definition of the GATB aptitudes; the Minimum Aptitude Scores of the Occupational Aptitude Patterns; a section on how to interpret OAP norms for the GATB; tables of correlations of the GATB with other tests; a section on scholarships available at local universities.

During the summer of 1958, a workshop was conducted by members of the Utah agency counseling staff for school counselors. The principal purpose of this workshop was to train school people in the use of agency counseling materials and to introduce the Job Guides. The new jobs in our changing economy, as presented in the Guides, were discussed and related to the GATB aptitudes and occupational aptitude patterns.

The final afternoon of the workshop was devoted to role playing in which the trainees counseled each other. The many facets of the training were emphasized by having the trainees rely heavily upon the various Employment Service counseling tools and occupational booklets.

Some Actual Uses

A recent check at several of the high schools in the State showed that ES materials were being used to good advantage. For example:

The counselor at the Ben Lomond High School in Ogden always has an attractive display of occupational information available for students to look through. The display is kept in the waiting room and the material is readily accessible to all students. The information from the local office is always well "thumbed" through.

In a large high school in Murray, the counselor teaches a class in psychology which offers a unit of job information to the students. He extensively uses the information developed by the Utah Department of Employment Security to inform students of local economic trends, job opportunities, and types of training needed for specific jobs within our State.

The counselor at Highland High School in Salt Lake City, a school with over 2,000 students, has many opportunities to speak to civic groups and PTA groups to explain economic trends, vocational opportunities, and the job outlook in Utah. This information is taken from the various reports he receives regularly from the Utah agency.

A medium-sized high school in Richfield has a well planned "career week" for seniors. The students have an opportunity to meet individuals in all types of professions, businesses, and industry. The Utah State Employment Service cooperates with the high school throughout the week by administering and interpreting the GENERAL APTITUDE TEST BATTERY for all senior students.

At Weber High School in Ogden, an ambitious program of vocational guidance is being undertaken with the entire student body. A large number of teachers are participating in this very sizable task by presenting occupational information and directing students in the preparation of papers concerning vocations. Vocational materials prepared by the Utah agency are, of course, leaned heavily upon here.

We in Utah feel that we are making real strides toward helping students plan intelligently for the future. We firmly believe that if students find occupations which are challenging to them after graduation, then both they and the Nation shall benefit.

TESTING BOX SCORE

The following number of individuals were tested by the State Employment Services during the calendar years 1956, 1957, and 1958:

	1958	*1957*	*1956*
Total	1,459,662	1,411,654	1,393,051
General Aptitude Test Battery	483,840	418,305	388,477
Specific	500,773	578,243	606,886
Proficiency	475,049	415,106	397,688

During calendar years 1956, 1957, and 1958, 141 test development studies were conducted and 100 new aptitude test batteries were developed as part of the Federal-State cooperative test research program.

	1958	*1957*	*1956*
Test development studies.	47	43	51
New batteries developed.	29	35	36

Greensboro local office manager Howard Winstead discusses plans for the P. Lorillard recruitment campaign with his interviewers. Left to right are: Rebecca Boyst, High Ebert, Manager Winstead, Edith Furr, Elmer Vancourt, and Wilburn Wright.

How We Staffed a New Plant

By HOWARD WINSTEAD

Manager, Greensboro Local Office

North Carolina Employment Security Commission

THE Employment Security Commission of North Carolina has saved new industry thousands of dollars. Proof of this statement came from the Industrial Relations Office of the P. Lorillard Co. in August 1958, after a pilot project in Greensboro had been fully evaluated. Prior to that period, Lorillard had used the Employment Service sparingly, limiting orders to clerical positions and a few nonproduction jobs.

In 1954, an announcement was published stating that P. Lorillard Co. planned to build a $13 million plant in Greensboro, N.C. The employment security office manager immediately wrote to the company. Prior to that time the local office had already furnished the Greensboro Chamber of Commerce with labor market reports when the plant was still in a nebulous state.

The letter set forth the advantages of having an "on-the-spot" agency which knew the skills, backgrounds, and educational levels of the available labor supply for such a plant. It pointed out the savings which might be realized by using the Employment Service to interview and screen applicants and for other services.

Other points brought out in the letter were: Use of DICTIONARY OF OCCUPATIONAL TITLES which contributes to uniform understanding of job duties; the ability of the Employment Service to provide information on the potential labor supply and skills available; knowledge of ES staff of the skills and potentialities of job applicants.

An additional advantage offered by the manager was assistance of the local office in interpreting the Employment Security Laws and Regulations of the State.

In December 1955, Lorillard sent a task force of 33 people to staff the Greensboro plant. Soon thereafter, the personnel manager of the new plant and the local office manager met to discuss operations of the plant and plans for the most effective use of the Employment Service. Special consideration was given to the large number of queries concerning the plant which were already being received by mail and in person from potential applicants. Methods for interviewing and screening by the local office were explained. A second meeting was scheduled to be held in February with an agenda to cover more detailed information on actual jobs.

During January and February 1956, applications in the local office jumped from 600 to more than 2,000 a month. In the 30-month period, February 1955 to August 1957, more than 38,000 applicants registered in the Greensboro office; 18,000 specified they were interested in working only with Lorillard. In February 1956, this group of applications was analyzed carefully. Applicants were grouped by general work experience, such as machine operators, clerical workers, industrial mechanics, machinists, and other classifications.

In all, 51 job classification groups were set up. The following information was then obtained for each group: Total number of applicants; number of vet-

Interviewers Ruth Allison and Irene Kistler (front) discuss an applicant's qualifications, while Interviewer Rebecca F. Boyst (right rear) talks with an applicant. The large figure "3" aids job seekers in finding the correct desk.

erans; number of handicapped; number employed; number of applicants by age group (18–25, 26–35, 36–45, 46–55, and 56–over); education by level completed (8th grade or less, some high school, high school graduate, more than high school); proximity to plant (living in Greensboro, in 25-mile radius, beyond 25 miles). This latter information subsequently proved most useful in recruitment and referral, and is believed to be one important factor in the small (2 percent-plus) labor turnover in the plant.

The February meeting was held as scheduled and attended by the plant personnel manager, the local office manager, ES supervisors, and interviewers. The Lorillard representative explained in detail the jobs which would be available, job requirements, employee type desired, company policy, and benefits. Some of the key jobs discussed were cigarette catcher, making machine operator, cellophane operator, and packer operator. Arrangements were made for Employment Service personnel to visit the plant, both before and after operations began, to assist them in making better selection before referral.

To minimize confusion, it was agreed that all applicants would be referred to the local office. Guards at the plant gate were instructed to send all applicants to the local office. The local office was to receive orders for all job openings and the number of applicants to refer to the plant each day.

Lorillard application forms were completed by applicants in the local office. A referral card was attached to the Company application form. The card was held by the plant until a definite decision on employment had been made.

The plant was originally planned for a maximum of 1,200 employees, to be reached over a 5-year period. But just as the plant was beginning to produce on a sizable scale, a sales promotion based on a new type filter for Kent cigarettes brought about a stepup in employment. As a result, instead of reaching the 1,200-employee figure in 5 years, an impressive figure of over 3,000 was reached in a period of about 18 months! These workers came from the group of approximately 4,000 persons selected and referred by the local office.

The Company's personnel assistant and over one-half the assistant foremen in the plant were local office referrals. Among the more difficult positions filled were those for engineers, chemists, and machinists. High-speed-machinery operators and other people with production machinery experience appeared to grasp their jobs with the least amount of training. The peak placement month came in September 1957, when 285 of those referred were employed.

Proof of P. Lorillard's faith in the North Carolina Employment Security Commission came in August 1958 through a notification from the Company's Industrial Relations Office in New York to its other manufacturing plant in Louisville, Ky. The request, in effect, said: "Henceforth, use employment security agencies in filling all future vacancies in our work forces."

DOT for Lumbering Industry

(*Continued from page 17*)

Bureau has developed a guide for rating the physical demands and working conditions.

The numerous activities and conditions which appeared on the old form 130 were so combined that six factors remained for the physical activities and seven for working conditions. Consideration is being given to append to each new definition a code, based upon these factors, which will give the interviewer essential information relating to these facets of the job.

The new concept of the definition will result in a more meaningful utilization of the Dictionary of Occupational Titles. The counselor, placement officer, or personnel worker will be able to visualize the job more clearly, and, consequently will relate, to a better advantage, the qualifications of the client to the requirements of the field of work in which he is interested. In utilizing manpower locally or nationally, these data will prove invaluable.

The task of keeping occupational information current is a never-ending one. Here in Oregon, as in all other States, continuous research must be carried on to keep abreast of the ever-changing jobs and the demands for greater job knowledge which inevitably follows economic expansion or technological evolution.

U. S. GOVERNMENT PRINTING OFFICE: 1959

OBJECTIVES OF THE MANPOWER PROGRAM OF THE U.S. DEPARTMENT OF LABOR

A. Overall Objective.

Achievement of the Nation's economic and security objectives depends to a substantial degree upon the full development and effective use of its manpower resources.

The manpower objective of the Department of Labor is to provide leadership and assistance in order to assure than the Nation's present and potential workers are so informed, trained, and utilized as to make their maximum contribution to economic growth and stability and to national security, consistent with individual aspirations and social goals.

B. Specific Objectives.

1. To exercise leadership in influencing public and private policies and programs affecting the development and use of manpower resources.

a. As the central, civilian manpower arm of the Federal Government, ensure that other Governmental manpower programs are consistent, within the framework of basic public policies, with the Nation's manpower objectives.

b. Identify and promote economic policies and encourage management decisions conducive to full utilization of manpower resources.

2. To provide information and assistance to enable employers, workers, potential workers, and those who teach and advise them to make informed decisions.

a. Provide manpower facts and projections.

b. Provide testing and counseling services to workers and potential workers.

c. Furnish, on request, technical assistance to employers on manpower planning and utilization.

3. To stimulate the education and training required to meet present and future manpower needs.

a. Provide information on current and future manpower requirements and resources.

b. Encourage apprenticeship and other on-the-job training.

c. Encourage extension and improvement of educational activities contributing to vocational preparation and industrial training.

4. To facilitate efficient operation of the labor market and constructive mobility of labor, with a minimum of frictional unemployment.

a. Assist in matching workers and jobs through employment exchange services.

b. Promote maximum utilization of individual capacities in suitable employment in accordance with ability, regardless of sex, age, race, creed, or physical handicaps.

5. To promote the conservation of manpower resources.

a. Promote occupational health and safety programs to prevent waste of manpower resources.

6. To assure manpower readiness for mobilization.

a. Plan emergency manpower programs.

7. To provide unemployment compensation programs which serve not only the Department's statutory responsibility to promote the welfare of workers, but which also support the other specific manpower objectives (preventing wasteful mobility, training and retraining, employment stabilization, conservation of health and morale, etc.).

Approved by the Under Secretary of Labor, September 12, 1958.

UNITED STATES
GOVERNMENT PRINTING OFFICE
DIVISION OF PUBLIC DOCUMENTS
WASHINGTON 25, D. C.

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, $300
(GPO)

THE EMPLOYMENT SECURITY REVIEW is published by the Bureau of Employment Security with the cooperation of the State Employment Security Agencies, and is distributed without charge to personnel of the National and State Employment Security offices. It is also available on subscription at $2.00 a year (single copies 20 cents) from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. In countries other than the United States, Canada, and Mexico, annual subscription is $2.75.

Expressions of opinion in articles published in the REVIEW are those of the authors and are not to be construed as official opinions of the Bureau of Employment Security.

Use of funds for printing this publication approved by the Director of the Bureau of the Budget January 29, 1959.

PUBLIC LIBRARY
APR 1959
DETROIT

BUREAU OF EMPLOYMENT SECURITY
AND AFFILIATED STATE EMPLOYMENT SECURITY AGENCIES